INSTALLATION MANUAL

Cross Platform Control™

Specifications, Installation and Programming

M1 includes the SIA CP-01 Standards for False Alarm Reduction †

ELK PRODUCTS, INC.

L520 Rev. J 11/11/10

Current with Firmware 5.2.x

Introduction

LIMITATION

The ELK-M1G Control is designed to warn against unauthorized entry and other situations. However, it is not a guarantee of protection against the occurrence of burglary, fire, or other emergency. Any alarm system is subject to compromise or failure to warn for various reasons. For example:

- Unauthorized access can be gained through unprotected points or by disarming or bypassing protected points.
- Sensing devices are power driven and do not operate without electrical power. Battery-operated devices will not work without batteries, with dead batteries, or if the batteries are not put in properly. Devices powered solely by AC will not work if their AC power supply is cut off for any reason, however briefly.
- Telephone lines over which alarm signals are transmitted may be out of service or rendered inoperable by an intruder.
- Even if the system responds to the emergency as intended, occupants may have insufficient time to protect themselves from the emergency situation. In the case of a monitored alarm system, authorities may not respond appropriately.
- Smoke detectors have limitations and cannot detect all types of fires. According to data published by the Federal Emergency Management Agency, while smoke detectors have played a key role in reducing residential fire deaths in the United States, they may not activate or provide early warning for a variety of reasons in as many as 35% of all fires, . Some of the reasons some detectors used in conjunction with this System may not work are as follows. Smoke detectors may have been improperly installed and positioned. Smoke detectors may not sense fires that start where smoke cannot reach the detectors, such as in chimneys, in walls, or roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level of a residence or building. A second floor detector, for example, may not sense a first floor or basement fire. Finally, smoke detectors have sensing limitations. No smoke detector can sense every kind of fire every time. In general, detectors may not always warn about fires caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson. Depending an the nature of the fire, and/or location of the smoke detectors, the detector, even if it operates as anticipated, may not provide sufficient warning to allow all occupants to escape in time to prevent injury or death..
- Signals sent by wireless transmitters may be blocked or reflected by metal before they reach the alarm receiver. Even if the signal path has been recently checked during a weekly test, blockage can occur if a metal object is moved into the path.
- Wireless transmitters (used in some systems) are designed to provide long battery life under normal operating conditions. Longevity of batteries may be as much as 4 to 7 years, depending on the environment, usage, and the specific wireless device being used. External factors such as humidity, high or low temperatures, as well as large swings in temperature, may all reduce the actual battery life in a given installation. This wireless system, however, can identify a true low battery situation, thus allowing time to arrange a change of battery to maintain protection for that given point within the system.
- Installing an alarm system may make the owner eligible for a lower insurance rate, but an alarm system is not a substitute for insurance. Homeowner, property owners and renters should continue to act prudently in protecting themselves and continue to insure their lives and property.
- A user may not be able to reach a panic or emergency button quickly enough.
- Passive Infrared Motion Detectors can only detect intrusion within the designed ranges as diagrammed in their installation manual. Passive Infrared Detectors do not provide volumetric area protection. They do create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by those beams. They cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows. Mechanical tampering, masking, painting or spraying of any material on the mirrors, windows or any part of the optical system can reduce their detection ability. Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90 to 105F (32 to 40C), the detection performance can decrease.
- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers if they are located on the other side of closed or partly open doors. If warning devices are located on a different level of the residence from the bedrooms, they are less likely to waken or alert people inside the bedrooms. Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliance, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people.
- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 20 years, the electronic components could fail at any time.
- The most common cause of an alarm system not functioning when an intrusion or fire occurs is inadequate maintenance. **This alarm system should be tested weekly to make sure all sensors and transmitters are working properly.**

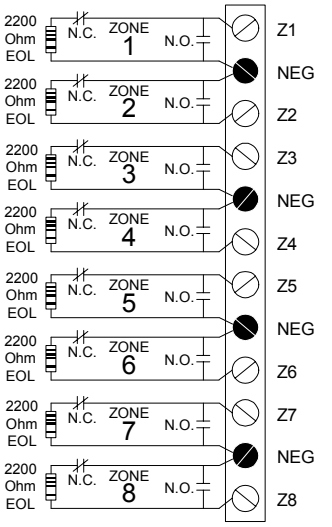
ALL RIGHTS RESERVED

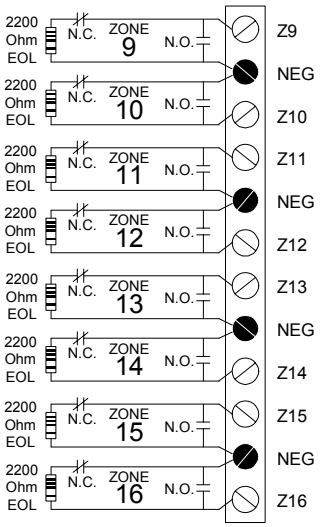
No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of the manufacturer. The material in this publication is for information purposes and subject to change without notice. The manufacturer assumes no responsibility for any errors which may appear in this publication. Printed in U.S.A.

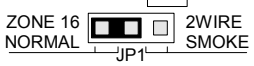
Use of this control for fire detection and/or annunciation may not be permitted by certain states, counties, municipalities or local jurisdiction. It is the responsibility of the installing alarm company to check with the local A.H.J. (Authority Having Jurisdiction) or State Fire Marshal's office prior to using this control for fire detection.

Table of Contents

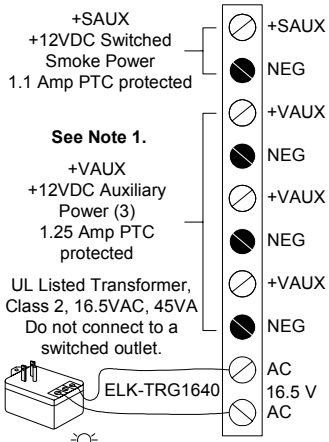
Specifications, Features, and Benefits 5
Wiring & Hookup Diagram 6
Section 1 - Installation and Wiring 8
1.1 Planning the Installation 8
1.2 Parts Diagram & Descriptions 8
1.3 Mounting and Wiring Preparation 8
1.4 Control Wiring 9
Data Bus E.O.L. Termination - VERY IMPORTANT! 12
Section 2 - Operating the System 14
2.1 Introduction 14
2.2 Powering Up (One Keypad) 14
2.3 User Codes and Authorities 14
2.4 Installer Program Code and Authorities 14
2.5 Keypad Overview 15
Keypad Menus 16
Menu 0 - Select Keypad Alternate Area - Multi-area (Partition) Operation 20
Section 3 - Programming The Control 21
3.1 Introduction 21
3.2 Local Keypad Programming 21
3.3 Local or Remote Computer Programming (ELK-RP) and Anti-Takeover 21
3.4 Area Partitioning 21
3.5 Communicator Setup Checklist 22
3.6 Entering Installer Level Programming 22
Menu 01 - Bus Module Enrollment 24
Menu 02 - User Code Options 25
Menu 03 - Area Definitions 26
Menu 04 - Keypad Definitions 28
Menu 05 - Zone Definitions 30
Menu 06 - Alarm Duration Timers 33
Menu 07 - Global System Definitions 34
Menu 08 - Telephone Account Setup 38
Menu 09 - Area Reporting Codes 40
Menu 10 - Zone Reporting Codes 42
Menu 11 - Keypad F-Key Reporting Codes 43
Menu 12 - Sys Report Code Options & Codes 44
Menu 13 - User Report Codes 46
Menu 14 - Wireless Definitions 47
Section 4 - PC Programming and Automation Capabilities 49
4.1 ELK-RP Software 49
4.2 Update/Verify Firmware in the Control and Peripherals 50
4.3 Automation Rules and Attributes 51
Appendix A - Event Codes 58
Appendix B - Telephone Remote Control 60
Appendix C - Voice Message Vocabulary *RP only * 62
Appendix D - Two Way "Listen-in/Talk" Interface 64
Appendix E - SIA CP-01 Compliance 65
Appendix F - Regulatory Agency Statements 66
Appendix G - Additional ELK-M1KP Keypad Information 69
Index 71

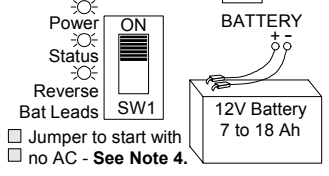






TELCO SEIZED
DIALER ACTIVE





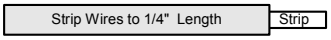
☐ Jumper to start with
☐ no AC - **See Note 4.**

ELK-M1

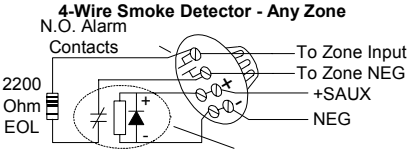
Cross Platform Control™

16 Zones expandable to 208

Control specifications subject to change without notice. All circuits are power limited except for Battery leads.

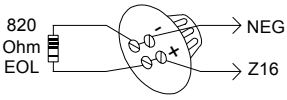


4-Wire Smoke Detector - Any Zone



U.L. Listed EOL Supervision Relay, ESL #204A or equiv. Use 2,200 Ohm EOL resistor, part # ELK-ER2200. Set JP1 to 'Normal'.

2-Wire Smoke Detector - Zone 16 ONLY



To configure Zone 16 as a 2-wire smoke zone, set Jumper JP1 to '2WIRE SMOKE' and use 820 Ohm EOL resistor, part # ELK-ER820

Use Only Compatible Detectors

Control Compatibility Identifier: M10001
Refer to the Wiring & Hookup Diagram in the Installation Manual # L520 Rev. J for the 2-Wire Smoke Detector Compatibility chart.

Notes

1. Refer to Appendix F located in the Installation Manual #L520 Rev. J for UL limitations on total continuous 'standby' current drain from terminals +SAUX, +VAUX, +VKP, and J16.

2. OUT 1 †† for speaker(s) ONLY (4 to 8 Ohms). If connecting more than 2, use series/parallel wiring to avoid going below a 4 ohm total load.
OUT 2 Connect ONLY 1 UL Listed Bell or Siren (self-contained). Current limited to 1 Amp. Program Global Option 26 to Voltage. **This output supervised.** Speaker(s) only permitted for non-UL installations. Series/parallel wire to avoid dropping below a 4 ohm total load.
OUT 3 NO/NC dry contact relay rated 4A.
OUT 7 through 16 are +12V switched positive voltage outputs rated at 50mA max.

3. This terminal (formerly earth gnd) not used. Do not connect any neg terminals to ground.

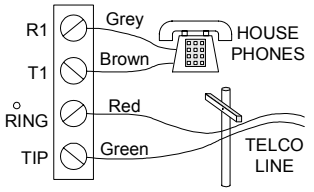
4. If AC fails, control will shut down if battery drops below 10.2 Volts. To start the control with a good battery and no AC, short the silver pads momentarily. Replace Battery every 3-5 years. Test regularly with ELK-BLT Battery Life Tester.

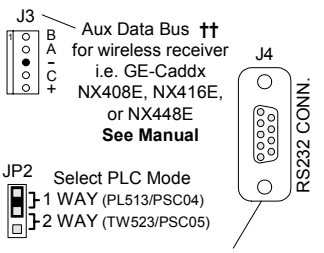
† Not Evaluated by UL
†† Not for use in UL Listed Systems

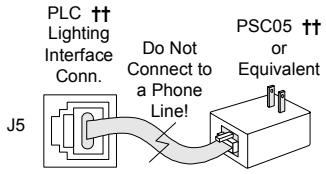
TEST SYSTEM WEEKLY

Complies with FCC Part 68:
Reg. # US: 5K6AL03BELK-M1 REN: 0.3B
Use Standard Jack: USOC RJ-31X.
Serial Number located below on base.
Complies with part 15 of FCC rules.
This Class B digital apparatus complies with Canadian ICES-003

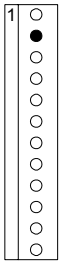
ELK PRODUCTS, INC.
HA008E **HILDEBRAN, N.C., 28637, USA**

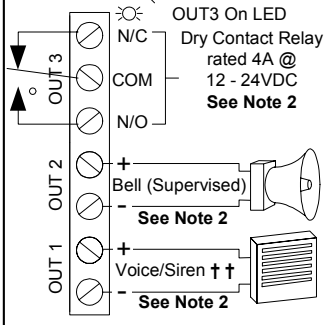




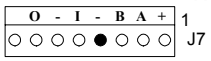


J-16 Programmable Outputs **See Note 1 & Note 2**

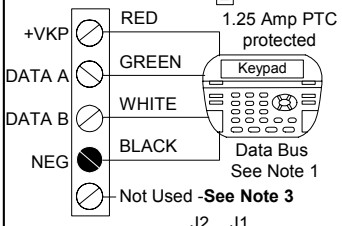


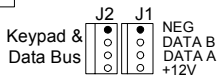


Audio Network Interface ††



Data Bus Terminating Resistor JP3





Specifications, Features, and Benefits

General:
- Large zone capacity: 16 on-board zones expandable to 208
- Wireless capability † Up to 144 zones
- Two Way Listen-in interface †
- Flash Memory - Allows field updates to firmware electronically
- RS-232 serial port to interface PCs and peripheral devices
- Time/Date stamped 512 event history log
- Menu driven, text keypad programming - no manual required!
- Voice announcement of alarms, zone descs, status, etc.
  - 500+ Word/Phrase Vocabulary
  - Link up to 6 words/phrases per announcement
  - 10 custom recordable words/phrases
- 13 On-Board Outputs: 1 voice driver/siren, 1 siren driver/ voltage, 1 form "C" Relay, and 10 low current (50 mA) voltage outputs
- Supports 4 wire (any zone) and 2 wire (zone 16) smoke detectors
- Includes Fire alarm verification routine
- Can be partitioned into 8 areas and account numbers
- User Codes: 99 (4 or 6 digit) with assignable authority levels
- Arm levels: Away, Stay, Stay Instant, Nite, Nite Instant, Vacation
- Plug-in terminal blocks make service and pre-wires a snap!
- Hardware "watchdog" and nonvolatile EEPROM memory
- Supervised phone line, alarm output, and aux. overcurrent

Communications
- True V.22 bis Modem for fast reliable upload/download
- Optional M1XEP Ethernet Interface † for user operation, alarm reporting, programming, and more
- Built-in Phone Remote Control makes any phone a keypad
- Integrated Voice Dialer uses vocabulary or custom words
- Communicator formats: SIA, Contact ID, 4 + 2, and Pager
- Installer telephone (buttset) test feature
- Elk-RP PC programming software with conflict resolution to easily highlight differences between control and PC
  - Dial-up, ethernet, RS-232 port, or local house phone jack
  - Automatic answering machine bypass

Keypad
- Backlit, Large Character LCD Display, 16 x 2 lines
- Built-in Temperature Sensor
- Optional Plug-in Prox Access reader (26 bit Weigand format)
- Menu navigation keys and 6 programmable function keys
- Plug-in connector, only 4 wires to the control
- 1 Zone input and 1 Output Programmable per Keypad
- Programmable display of time, date, & temperature
- Displays system diagnostics and settings.
- Maximum Keypads allowed: 16

Automation & Integration
- Create lifestyle enhancing comfort, convenience, and security
- Powerful "Whenever/And/Then" RULES Programming allows almost any imaginable operation. No need to chain rules together. Any single "Whenever" event can have one or more ANDs and THENs (conditions and commands).
- Rules utilize easy to understand text based references
- Control lighting using RS-232 serial or 2-way Power Line Control (PLC) Commands include On, Off, Dim, All On, All Off †
- Transmit and receive custom serial ASCII strings
- Read Temperature Sensors - Communicate with Thermostats
- Turn on Tasks, Lights, Outputs via Keypad or Telephone
- Sunset/Sunrise calculation and activation built-in

Power Supply
- Heavy duty - 2.5 Amp power supply
- Dynamic battery test
- Master power switch and Low battery disconnect
- PTC (fuseless) resettable overload protection
- Multiple auxiliary power terminals

Part Numbers and Accessories:

ELK-M1GCB	M1G Gold Board Only (No Teminals Blocks)
ELK-M1GOLD	M1G Gold - Control in 14" metal can
ELK-M1GK	M1G Gold Kit - No Metal Can, for use with structured wiring systems
ELK-M1SYS4	M1G Gold Kit - 14" metal can, Ctrl, Encl, Xfmr, KP, 12V-8Ah, Spkr, RJset
ELK-M1KP	Keypad, LCD,16 character x 2 line
ELK-M1KP2	Small LCD Keypad, 16 character x 2 line † (no internal temp sensor and 2 less "F" keys)
ELK-M1KPAS	Keypad Arming Station †
ELK-M1XIN	16 Zone (input) expander
ELK-M1XOVR	16 Output expander, 8 Voltage/8 Relays
ELK-M1RB	Relay board, 8 form "C" relays
ELK-M1DBH	Data bus wiring hub "Passive" †
ELK-M1DBHR	Data bus wiring hub "Active" for Retrofit †
ELK-M1XEP	Ethernet Port Exp/Interface †
ELK-M1XRF2G	Wireless Receiver for GE Crystal Xmtrs †
ELK-M1XRF2H	Wireless Receiver for Honeywell 5800 Xmtrs †
ELK-M1XSP	Lighting, Thermostat Interface & Serial exp. †
ELK-M1PR	Mini prox reader for keypad †
ELK-M1TWI	Two Way Listen-in Int. w/3 mic inputs †
ELK-M1TWS	Speaker & Mic for Two Way Listen-in †
ELK-M1ZTS	Zone Temperature Sensor -50 to 140 F †
ELK-RP	PC software - Free upon request with Control Panel purchase
ELK-RM	Remote "User" Management software

NOTE: Use of Two Way Listen-in may be regulated by local or state laws and/or ordinance. It is the responsibility of the Installer to check before using this feature.

Highlighted Features of the M1G (Gold)

• Automation ("Whenever/And/Then") Rules Capacity	528
• Serial (RS232) Port Supported	8 w/expanders
• Phone Number Capacity	8
• Number of HVAC Thermostats † Supported	16
• Total Number of Outputs Supported	205
• Advanced Lighting † Options (Pre-set Dim, Extended, Levels, Scenes)	Yes
• Analog Zone Definitions Supported	Yes

† Not evaluated by UL †† Not for use in UL Listed Systems

Wiring & Hookup Diagram

(Left Side Terminals)

This unit provides Residential fire alarm service when installed according to ANSI/NFPA 72. Transmission of the fire alarm signal to a fire alarm headquarters or central station shall be permitted only with the approval of the authority having jurisdiction. The burglar alarm signal shall not be transmitted to a police emergency number, equipment is to be installed in accordance with NFPA (985,55.1.P).

Recommended locations and wiring methods shall be in accordance with CSA C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations; CAN/ULC-S302, Installation and Classification of Burglar Alarm Systems for Financial and Commercial Premises, Safes and Vaults; and CAN/ULC-S301, Standard for Central and Monitoring Station Burglar Alarm Systems.

Reference NFPA70 (NEC) & Canadian Electrical Code.

All circuits are current limited except for Battery leads. Refer to Appendix F.

For Installation of Residential Fire Warning Systems reference CAN/ULC-S540 Standard.

Testing of this system should be performed regularly with the primary AC power de-energized. Control panel specifications are subject to change without notice.

Lithium 3V "Clock" battery, Varta #CR2032 located in upper left corner behind cover. Battery has a life expectancy of approx. 10 years. Replace ONLY with exact model available at most electronics and camera retailers. **"CAUTION: Lithium Battery May Explode If Mistreated. Do Not Recharge, Disassemble, or Dispose Of In Fire."**

NOTE: M1ZTS Temperature Sensors may only be connected to the first 16 zones.

Color Code for 2200 Ohm EOL Resistor Part # ELK-ER2200

Red (2)
Red (2)
Red (2 x 0)
Gold (quality)

Color Code for 820 Ohm EOL Resistor Part # ELK-ER820

Gray (8)
Red (2)
Brown (1 x 0)
Gold (quality)

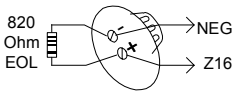
2-Wire Smoke Detector Compatibility

Name	Model	Compatibility ID	Max #	Base
System Sensor	2W-B, 2WT-B, 1151, 2100, 2100T, 2151	A	20	None
Sentrol (GE) † †	429AT, 521BXT, 521B	S09A	20	None

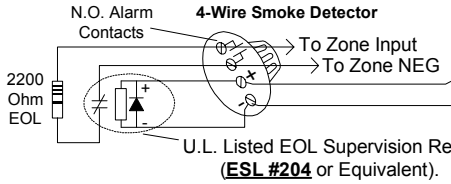
To configure Zone 16 as a 2-wire smoke zone, set Jumper JP1 to "2 WIRE SMOKE" and use 820 Ohm EOL resistor, part # ELK-ER820.

Compatibility Identifier: M10001
Maximum Operating Voltage: 13.8 VDC
Max. wire resistance should not exceed 13 Ohms.
Use 18AWG Fire approved wire. Max. wire length = 1000 feet.
Do not mix different models on same circuit as proper operation may be impaired.

2-Wire Smoke Detector



Smoke Detector covers should be kept free from dust and dirt by use of a dry or damp (water) cloth as needed. When necessary, clean the detector interior and/or replace the optical chamber according to instructions provided by the Smoke Detector Manufacturer.

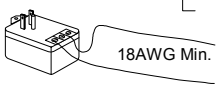


Switched +12 VDC Output protected by 1.1A PTC.

M1G "Board only" non-alarm current draw = 140mA (.14 Amp)

Auxiliary +12VDC Power Outputs protected by 1.25A PTC NOTE: Refer to Appendix F for the UL limitations on total continuous 'standby' current drain from terminals +SAUX, +VAUX, +VKP, and J16.

16.5VAC, 45VA UL Listed Class 2 Transformer - **ELK-TRG1640**
DO NOT CONNECT TO A SWITCHED OUTLET
*For Canada use cUL Listed Transformer - **ATC Frost # FPS-4016***

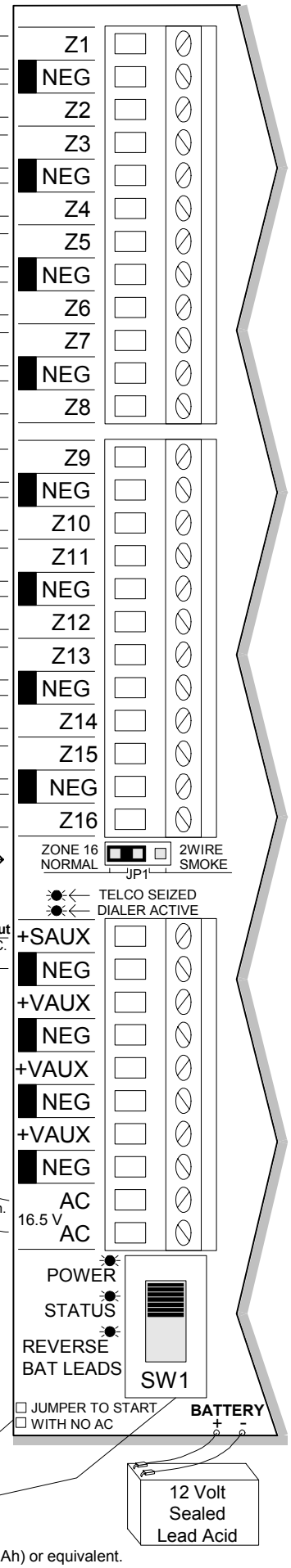


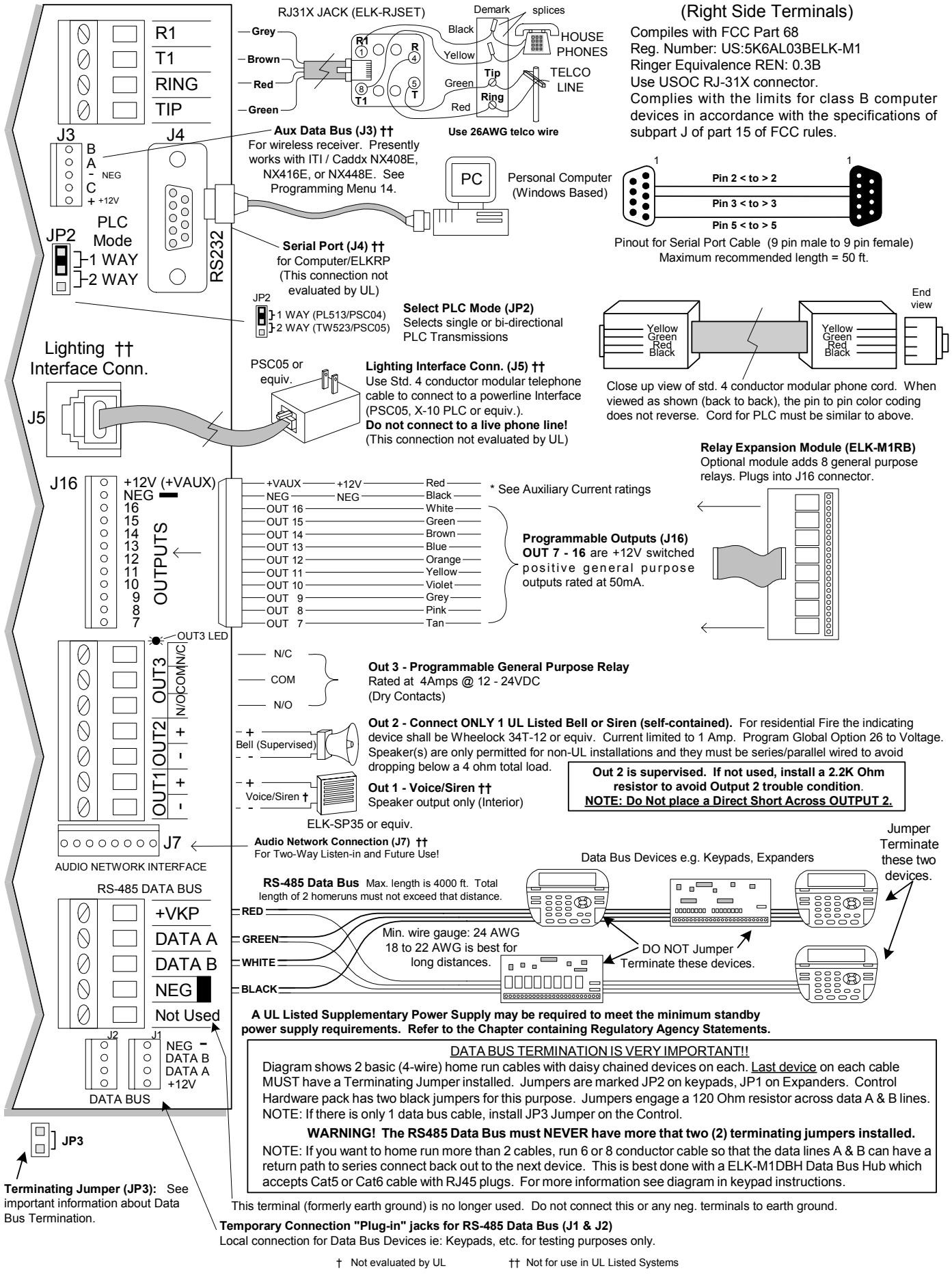
LEDS Indicators	Normal State	Descriptions
TELCO SEIZED	OFF	Phone line is good and house phones are connected. If ON constantly, the phone line may be bad. During remote mode this LED will be ON since the house phones are then disconnected from the outside line & are being powered from control.
DIALER ACTIVE	OFF	Dialer/Modem is idle. If ON, Dialer/Modem is in use (communicating).
Power	ON	AC Voltage is present and power switch is turned ON. If OFF, check AC power.
Status	Regular 1 sec. Blink	1 blink with equal On and Off times is Normal. 2 fast blinks = Control running on bootloader only. 4 fast blinks = Control is re-initializing it's EEPROM memory after a firmware flash. 5 fast blinks = Memory/Operation overflow
Battery Reversed	OFF	Battery is connected correctly. If ON, check battery lead connections.

Control needs AC power to start. Momentarily shorting these two pads allows control to startup on battery only.

Master Power Switch (SW1), disconnects AC and Battery power from control.

Replace Battery every 3-5 years. Use ELK model # **ELK1280** (12V - 8 Ah) or **ELK12180** (12V - 18 Ah) or equivalent.




R1
T1
RING
TIP
J3
J4
B
A
- NEG
C
+ +12V
PLC Mode
JP2
1 WAY
2 WAY
RS232
RJ31X JACK (ELK-RJSET)
Grey
Brown
Red
Green
R1
T1
R
T
Demark
splices
Black
Yellow
Green
Red
Tip
Ring
HOUSE PHONES
TELCO LINE
Use 26AWG telco wire
Aux Data Bus (J3) ††
For wireless receiver. Presently works with ITI / Caddx NX408E, NX416E, or NX448E. See Programming Menu 14.
PC
Personal Computer (Windows Based)
Serial Port (J4) ††
for Computer/ELKRP
(This connection not evaluated by UL)
JP2
1 WAY (PL513/PSC04)
2 WAY (TW523/PSC05)
Select PLC Mode (JP2)
Selects single or bi-directional PLC Transmissions
Lighting ††
Interface Conn.
J5
PSC05 or equiv.
Lighting Interface Conn. (J5) ††
Use Std. 4 conductor modular telephone cable to connect to a powerline Interface (PSC05, X-10 PLC or equiv.).
Do not connect to a live phone line!
(This connection not evaluated by UL)
J16
+12V (+VAUX)
NEG
16
15
14
13
12
11
10
9
8
7
OUTPUTS
+VAUX
+12V
NEG
NEG
OUT 16
OUT 15
OUT 14
OUT 13
OUT 12
OUT 11
OUT 10
OUT 9
OUT 8
OUT 7
Red
Black
White
Green
Brown
Blue
Orange
Yellow
Violet
Grey
Pink
Tan
* See Auxiliary Current ratings
Programmable Outputs (J16)
OUT 7 - 16 are +12V switched positive general purpose outputs rated at 50mA.
OUT3 LED
OUT3
N/O COM N/C
OUT2
+
-
OUT1
+
-
N/C
COM
N/O
Out 3 - Programmable General Purpose Relay
Rated at 4Amps @ 12 - 24VDC
(Dry Contacts)
Bell (Supervised)
Out 2 - Connect ONLY 1 UL Listed Bell or Siren (self-contained). For residential Fire the indicating device shall be Wheelock 34T-12 or equiv. Current limited to 1 Amp. Program Global Option 26 to Voltage. Speaker(s) are only permitted for non-UL installations and they must be series/parallel wired to avoid dropping below a 4 ohm total load.
Out 2 is supervised. If not used, install a 2.2K Ohm resistor to avoid Output 2 trouble condition.
NOTE: Do Not place a Direct Short Across OUTPUT 2.
Voice/Siren †
Out 1 - Voice/Siren ††
Speaker output only (Interior)
ELK-SP35 or equiv.
J7
Audio Network Connection (J7) ††
For Two-Way Listen-in and Future Use!
AUDIO NETWORK INTERFACE
RS-485 DATA BUS
+VKP
DATA A
DATA B
NEG
Not Used
RS-485 Data Bus Max. length is 4000 ft. Total length of 2 homeruns must not exceed that distance.
Data Bus Devices e.g. Keypads, Expanders
Jumper Terminate these two devices.
RED
GREEN
WHITE
BLACK
Min. wire gauge: 24 AWG
18 to 22 AWG is best for long distances.
DO NOT Jumper Terminate these devices.
A UL Listed Supplementary Power Supply may be required to meet the minimum standby power supply requirements. Refer to the Chapter containing Regulatory Agency Statements.
J2
J1
NEG
DATA B
DATA A
+12V
DATA BUS
DATA BUS TERMINATION IS VERY IMPORTANT!!
Diagram shows 2 basic (4-wire) home run cables with daisy chained devices on each. Last device on each cable MUST have a Terminating Jumper installed. Jumpers are marked JP2 on keypads, JP1 on Expanders. Control Hardware pack has two black jumpers for this purpose. Jumpers engage a 120 Ohm resistor across data A & B lines.
NOTE: If there is only 1 data bus cable, install JP3 Jumper on the Control.
WARNING! The RS485 Data Bus must NEVER have more that two (2) terminating jumpers installed.
NOTE: If you want to home run more than 2 cables, run 6 or 8 conductor cable so that the data lines A & B can have a return path to series connect back out to the next device. This is best done with a ELK-M1DBH Data Bus Hub which accepts Cat5 or Cat6 cable with RJ45 plugs. For more information see diagram in keypad instructions.
JP3
Terminating Jumper (JP3): See important information about Data Bus Termination.
This terminal (formerly earth ground) is no longer used. Do not connect this or any neg. terminals to earth ground.
Temporary Connection "Plug-in" jacks for RS-485 Data Bus (J1 & J2)
Local connection for Data Bus Devices ie: Keypads, etc. for testing purposes only.
† Not evaluated by UL
†† Not for use in UL Listed Systems
(Right Side Terminals)
Compiles with FCC Part 68
Reg. Number: US:5K6AL03BELK-M1
Ringer Equivalence REN: 0.3B
Use USOC RJ-31X connector.
Complies with the limits for class B computer devices in accordance with the specifications of subpart J of part 15 of FCC rules.
1
1
Pin 2 < to > 2
Pin 3 < to > 3
Pin 5 < to > 5
Pinout for Serial Port Cable (9 pin male to 9 pin female)
Maximum recommended length = 50 ft.
End view
Yellow
Green
Red
Black
Close up view of std. 4 conductor modular phone cord. When viewed as shown (back to back), the pin to pin color coding does not reverse. Cord for PLC must be similar to above.
Relay Expansion Module (ELK-M1RB)
Optional module adds 8 general purpose relays. Plugs into J16 connector.

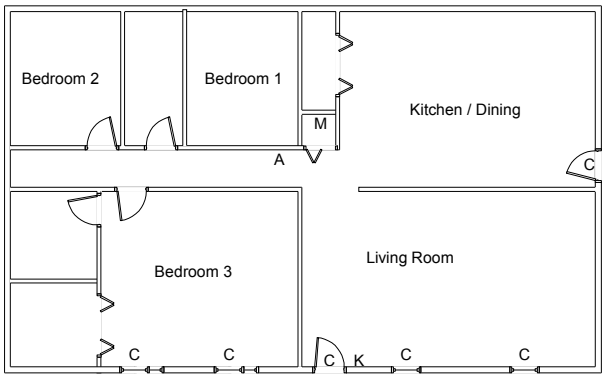
Section 1 - Installation and Wiring

1.1 Planning the Installation

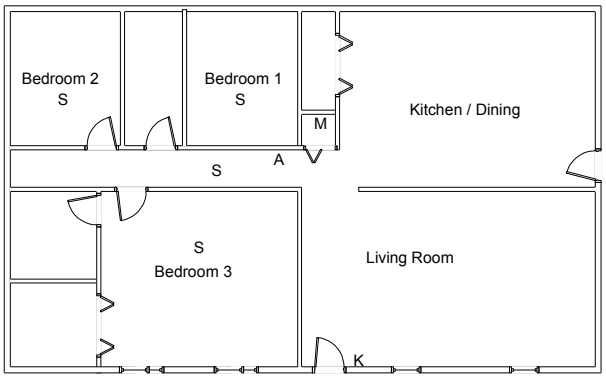
The first step in any multi-zone security system installation is planning the job.

1. Read this entire manual to familiarize yourself with all system features and procedures before actually beginning the installation. Read all the information regarding Underwriters Laboratories (UL) and NFPA requirements.
2. Perform a physical survey of the installation site. Use the diagrams below as a guide in planning the installation.
3. Discuss the installation requirements and applications with the customer.
4. Compare the installation requirements and applications with the factory default settings to determine what customized programming is needed to meet the specific installation requirements.
5. Bench test the system prior to installation.

TYPICAL BURGLARY INSTALLATION LAYOUT



TYPICAL FIRE INSTALLATION LAYOUT



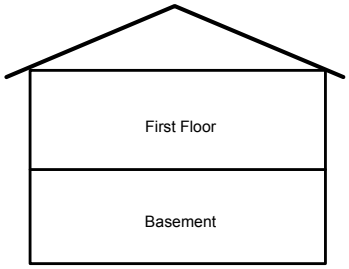
All perimeter openings below 18" should be provided with protection.

A Smoke Detector shall be located in each sleeping area and between the sleeping areas and the main living area.

Early warning fire detection is best achieved by the installation of fire detection equipment in the location shown above.

In homes basements or multiple levels at least one smoke detector shall be on each level.

Legend
M - Main Control
A - Audible Alarm
S - Smoke Detector
C - Contact
K - Keypad



1.2 Parts Diagram & Descriptions

See Wiring & Hookup Diagram on pages 6 & 7.

1.3 Mounting and Wiring Preparation

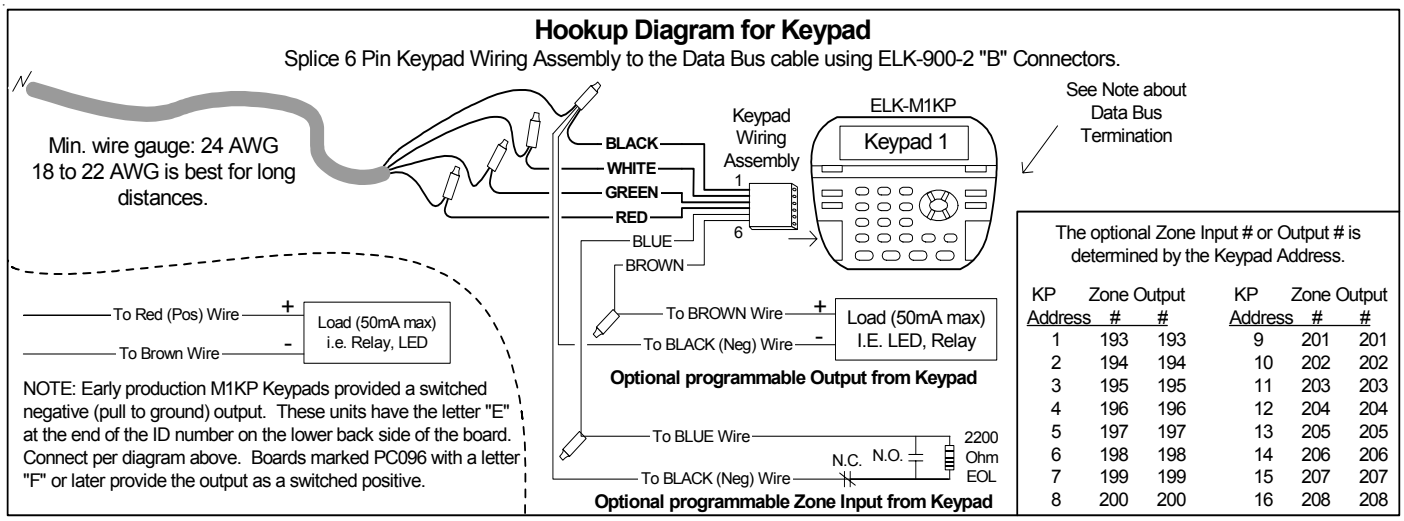
Control Mounting

DO NOT MOUNT THE CONTROL OUTDOORS OR IN A DAMP LOCATION OR WHERE THE ENVIRONMENTAL CONDITIONS ARE UNSUITABLE FOR ELECTRONIC BASED EQUIPMENT. DO NOT MOUNT IN AN UNCONDITIONED ATTIC. USE COMMON SENSE AND GOOD INSTALLATION PRACTICES. A suitable location would be inside a secure dry location where the ambient temperature inside the control box can remain at 32‘ to 120˚ Fahrenheit (0’ to +49' Celsius). Choose a location that allows easy wiring to an unswitched power outlet and to a grounding conductor for the control. A central location makes running system wiring easier. Remove control box knockouts that best suit your wiring needs.

After removing all packing materials, compare the system components with those in the figure above to familiarize yourself with the part names. Mount the control using the upper center slotted hole to level. Install and connect all necessary wiring for the power transformer, detection loops, keypads and siren outputs.

Keypad Mounting and Wiring

Ideal height is 50-58 inches. Pick a location with an ambient temperature range between 32˚ and 120˚ F (0° to +49˚ C). Avoid direct sunlight if possible. Fasten backplate to electrical box or wall with flat head screws to prevent shorts to the back of the circuit board. Keypads have an unpluggable harness for connecting to the M1data bus. Splice the Black, Red, White, and Green wires from the unpluggable harness to the M1 Data Bus field cabling. Plug the connector into the back of the keypad. Tuck wires neatly into back plate and install Keypad on mounting plate. The LCD keypads have connections for an optional programmable output and a programmable zone input. NOTE: Min. field wire gauge is 24 AWG, but 18 to 22 AWG is better for long distances. CAT5 (8 conductor) cable can be purchased in various wire gauge sizes. Where possible always use the larger gauge CAT5 cable. The extra conductors in CAT5 wires can be used to provide return path for the data A & B lines.


Hookup Diagram for Keypad
Splice 6 Pin Keypad Wiring Assembly to the Data Bus cable using ELK-900-2 "B" Connectors.
Min. wire gauge: 24 AWG
18 to 22 AWG is best for long distances.
BLACK
WHITE
GREEN
RED
BLUE
BROWN
Keypad Wiring Assembly
1
6
ELK-M1KP
Keypad 1
See Note about Data Bus Termination
To Red (Pos) Wire
To Brown Wire
Load (50mA max) i.e. Relay, LED
To BROWN Wire
To BLACK (Neg) Wire
Load (50mA max) I.E. LED, Relay
Optional programmable Output from Keypad
To BLUE Wire
To BLACK (Neg) Wire
N.C.
N.O.
2200 Ohm EOL
Optional programmable Zone Input from Keypad
NOTE: Early production M1KP Keypads provided a switched negative (pull to ground) output. These units have the letter "E" at the end of the ID number on the lower back side of the board. Connect per diagram above. Boards marked PC096 with a letter "F" or later provide the output as a switched positive.
The optional Zone Input # or Output # is determined by the Keypad Address.
KP Address | Zone Output # | Zone Output #
1 193 193
2 194 194
3 195 195
4 196 196
5 197 197
6 198 198
7 199 199
8 200 200
9 201 201
10 202 202
11 203 203
12 204 204
13 205 205
14 206 206
15 207 207
16 208 208

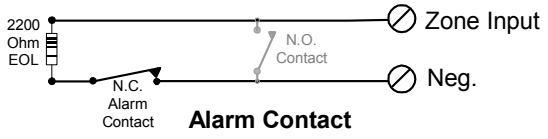
NOTE: Refer to the section 'Data Bus E.O.L. Termination' for information on multiple homerun cables. NEVER SPLICE OR CONNECT WIRE WITH CONTROL POWER ON. Minimum cabling should be four conductor 22 or 24 gauge. Maximum resistance per wire is 25 Ohms. Device placement beyond 1000' is not recommended.

1.4 Control Wiring

Zone Inputs (1 thru 16 on main board, 17 thru 208 via expanders)

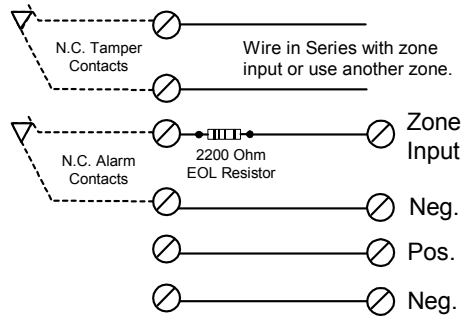
Zones are arranged in groups of 16, starting with Z1 thru Z16 on the main board. Each 2 zones share a common negative terminal. A zone may be programming for EOL resistor supervision (Default), or normally closed/normally open without a resistor. In addition, Burglar and Keyswitch zones may be programmed for EOL with Security Alert on Short, or EOL with Security Alert on Open/Short, also referred to as a **Four (4) State Zone** (firmware 4.3.5 or later). If EOL resistors are used, they should be placed at the furthest most remote end of the detection device wiring. EOL zones permit a combination of N.C. (normally closed) or N.O. (normally open) devices. **Using voltage meter probes across the zone and com terminals, a non-violated EOL zone will measures approx. 7.0 VDC. An open circuit will be approx. 13.8 VDC. A shorted circuit will be 0 VDC. The Keypad also provides the ability "Menu 8 "System Diagnostics" to view zone voltage.**

Traditional Three (3) State Zone Wiring (1 series resistor)



Alarm Contact

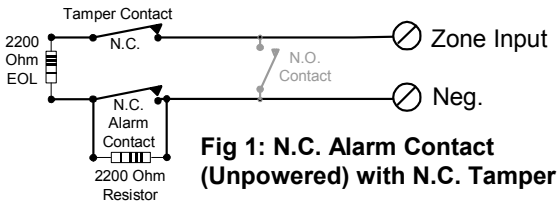
Diagostic Table			Condition When:	
Zone Resistance	Approx. Range of Zone Voltage	A to D Value	Armed	Disarmed
Short ~	0 - 3.9 Volts	0 - 72	Alarm	Not Ready
2.2k Ohms	4.0 - 8.8 Volts	73 - 170	-	Ready
Open ~	8.9 - 13.8 Volts	171 - 255	Alarm	Not Ready



Powered Motion, PIR, Glassbreak, etc.

Optional Four (4) State Zone Wiring (2 series resistors w/ N.C. contacts)

Program Zone for EOL Wiring
Type 4 - Supervisory on Open



This feature requires Firmware 2.3.5 or later.

Fig 1: N.C. Alarm Contact (Unpowered) with N.C. Tamper

Diagnostic Table			Condition When:	
Zone Resistance	Approx. Zone Voltage Reading	A to D Value	Armed	Disarmed
Short ~	0 - 3.9 Volts	0 - 72	Alarm	Sec. Alert/Tamper
2.2k Ohms	4.0 - 7.3 Volts	73 - 159	-	Ready
4.4k Ohms	7.4 - 11 Volts	160 - 220	Alarm	Not Ready
Open ~	11.1 - 13.8 Volts	221 - 255	Alarm	Sec. Alert/Tamper

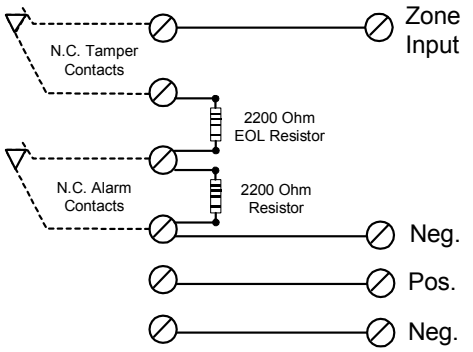


Fig 2: Powered PIR, Glassbreak, etc. with Tamper

Two-Wire Smoke Zones (Zone 16)
To enable use of two-wire smoke detectors on Zone 16, position Jumper JP1 (located below Zone 16 terminals) so that the two right hand pins are covered. Go to Installer programming mode, Menu 05 - Zone Definitions, and program Zone 16 as a Fire zone (Def=10). Step to next location and program Wire Type=6. **NOTE Use only compatible two-wire detectors listed on the front label of the control. Do not mix brands. The maximum number of detectors is also listed on the front label. For two-wire operation, a 820 Ohm EOL resistor part # ER820 must be used instead of the 2,200 Ohm resistor part # ER2200. Use 18AWG Fire approved wire. Max. wire length = 1000 feet. Max. wire resistance should not exceed 13 Ohms.**

Switched Power Connection (+SAUX)

Four-wire smoke detector and other devices that require a temporary power disruption in order to reset or unlatch from the alarm state (i.e. smoke detectors, etc.) should be connected to the +SAUX 12 Volt DC switched power terminal. When a smoke reset is performed, the operating voltage to these devices is momentarily interrupted.

Auxiliary Power Connections (+VAUX)

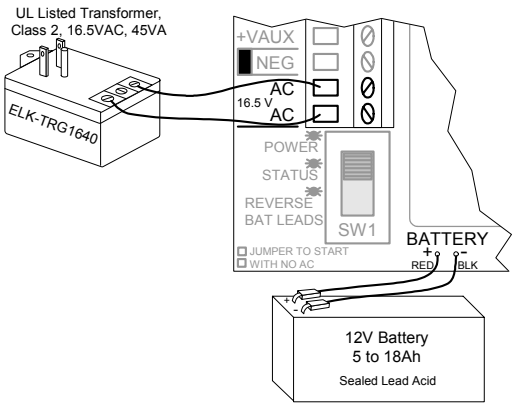
Motion detectors, glass breaks, etc. and other devices requiring unswitched 24-hour power should be connected to one of the auxiliary terminals, +VAUX. All negative terminals on the terminal strip are at the same reference and may be used whenever a common (circuit ground) negative is required. Use caution when wiring the control to distribute the load devices among the supply and the negative terminals evenly. **NOTE: Circuit ground refers to any negative terminal connection on this control. This does not refer to the earth ground terminal or to the common terminals of Relay Output 3. These terminals are not at the same voltage potential and should not be wired so that they are electrically connected to a negative.**

PTC (Positive Temperature Coefficient) Circuit Breakers

The +VAUX Auxiliary power and J16 power output terminals are protected against shorts and overloads by a 1.25A PTC. A PTC is a solid state, auto-restoring type of circuit breaker. The +SAUX Switched (Smoke) power output is protected by a 1.1A PTC. The +VKP Keypad power output is protected by a 1.25A PTC. Output 2 is protected by a 1.25A PTC. **NOTE: Sometimes it may be necessary to remove power (unplug the outputs) for approx. 20 seconds after a short, to allow the PTC to reset. Even if the short is no longer present, the remaining residual current draw may be so high that the PTC cannot determine that the short is gone. If the PTC re-trips, check the field wiring and repair.**

Transformer Primary Power Input (AC)

The control is powered by a 16.5 VAC, 40 min. VA, UL Listed Class 2 transformer (ELK-TRG1640). The specified sized and rated transformer must be used to operate this control. The transformer must be connected to a 120 VAC, 24-hour outlet not controlled by a switch other than an approved overcurrent protection device.



Connect the transformer to the AC Terminals using 16 to 18 gauge minimun wire. Do not exceed 50 feet between the transformer and the control or run the AC power in a multiconductor with other system circuits. Leave the transformer unplugged as well as the standby battery until all other connections have been made.

Standby Battery Connection

Connect the BLACK wire to the Neg (-) terminal on the battery, the connect the RED wire to the Pos (+) terminal on the battery. The control is designed to operate with and recharge a 12 volt, sealed lead acid battery from 7Ah up to 18 Ah for backup of the primary power supply. The control maintains a float charge for the battery of 13.8 VDC at 100 mA. This is in addition to the continuous output of 1.5 Amps that the power supply maintains (see maximum current drains for UL Listed Systems).

CAUTION: Do not reverse the battery leads! The control has special circuitry which helps protect it from battery reversal damage for short durations. However, prolonged reversal of the battery leads may cause permanent damage. A reverse battery warning LED is located to the left of the power On/Off switch. If this light is ON, turn the power off immediately and correct the battery lead connections.

AC Failure, Low Battery, and Automatic Low Voltage Shutdown

During an AC power failure the battery automatically takes over and AC Fail trouble annunciates at the keypad. The communicator can be programmed to report AC Fail to the Central Station after a time delay (see Menu 12, System Option 01).

If the battery voltage falls below 11.2 VDC a Low Battery Trouble condition will occur. The communicator can be programmed to report Low Battery to the Central Station. The battery will continue to run the control until its voltage drops below 10.2 VDC, at which time the control will disconnect and shut down to prevent a false alarm and damage to the battery. The AC Fail trouble display will clear if the AC restores. However, the Low Battery Trouble requires a manual or automatic battery load test before it will clear. An automatic battery load test is performed every 24 hours. See Section 2.2 for powering up the control.

Telephone Line Connection (R1,T1,T,R)

The telephone interface is connected by the use of an approved RJ-31X interconnect jack. This device allows the subscriber to disconnect the control/communicator from the public switched telephone network in the event of a malfunction. The control is equipped with line seizure so that the premises telephone service is interrupted during communication to the central station. Connection to the approved jack is done with a RJSET cord which connects the control terminals to the RJ31X jack.

NOTE: The Telco cord can be supervised to the RJ31X or demarc block by installing an EOL resistor across the Orange and Blue wires (RJ31X terminals 2 and 7). In the control, connect the Orange and Blue leads to any 24hr Burglar zone input.

Outputs

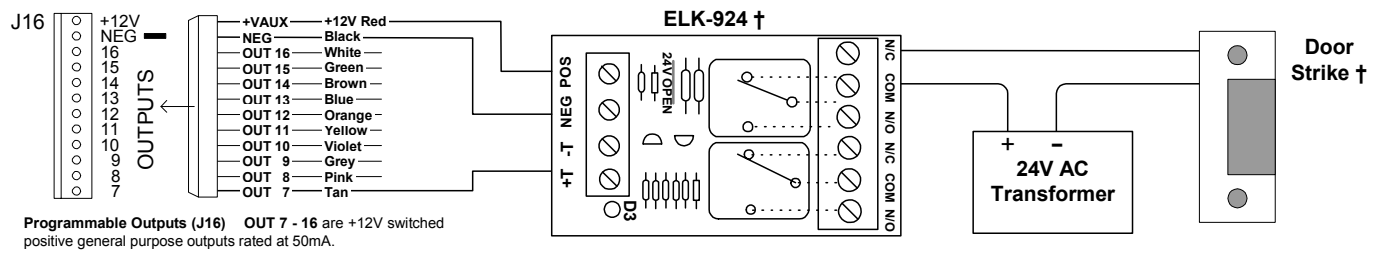
There are 13 outputs on the main board. Outputs may be expanded utilizing output expander boards connected to the RS-485 4-wire Keypad data bus. Outputs 1 & 2 trip when any alarm is activated. All others must be enabled through the RP Rules Programming and can be triggered by multiple conditions “events”. Do not exceed the current limits on voltage only outputs.

Output 1 †† is for speakers(s) ONLY (4 to 8 Ohms). If connecting more than 2, use series/parallel wiring to avoid going below a 4 ohm total load. This output is the source for voice announcements such as: Zone 1 not ready, System Armed, Alarm Activated, etc., as well as alarm siren sounds. The initial start volume and the final volume can be adjusted in programming to suit the application.

Output 2 - Connect a UL Listed Bell or Siren (self-contained). Current limited to 1 Amp. Program Global Option 26 to Voltage. This output is supervised. Speaker(s) are only permitted for non-UL installations. Series/parallel wire to avoid dropping below a 4 ohm total load.

Output 3 is a Single Pole Double Throw Relay with form “C” contacts (Com, N/O, and N/C).

Outputs 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16 are low current, positive (+) voltage only, for driving LEDs, relays, etc. **Outputs 4, 5, and 6 ARE NOT available from the main board.** They can only be accessed with a data bus Output expander set to address 1. This expander will replicate main board outputs 7 thru 16, while also including outputs 4, 5, and 6.



Using Output 7 (low current) with a sensitive relay to switch 24V AC to a Door Strike †

Earth Grounding

Tests have determined that the best results against lightning and transients are obtained by isolating the control from ground. Do NOT connect any of the terminals, especially the Neg. terminals to earth ground. Early production boards had an earth ground terminal. This terminal is no longer used on circuit board revision I or later. However, ancilliary devices such as the ELK-950 Surge Protector on the incoming Telephone circuit are still recommended.

Keypad & Expanders on the RS-485 Data Bus (+VKP, Data A, Data B, Neg)

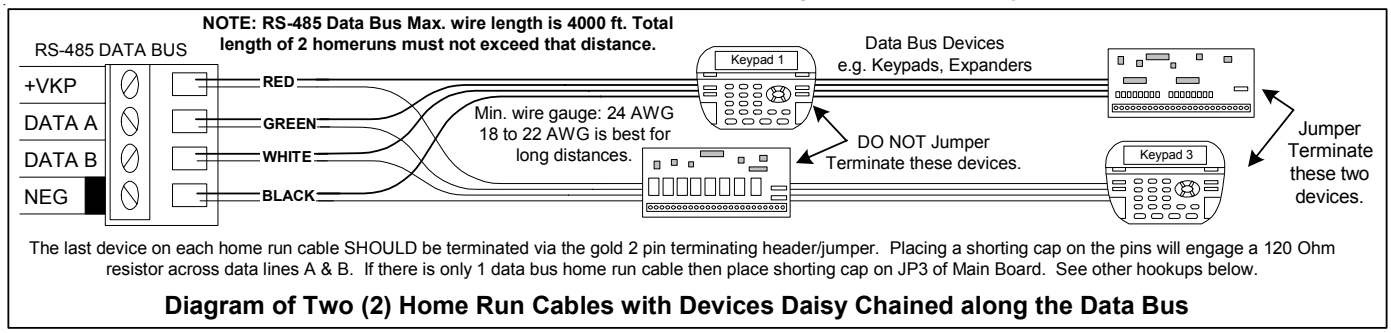
Keypads and data bus expander devices connect to the four terminals marked +VKP, Data A, Data B, and Neg. The keypad plug-in wire harness color code is: Red +VKP, Green Data A, White Data B, and Black (-) Neg. The +VKP power terminal is protected by an auto reset PTC device. In the event of a short circuit or malfunction, power will be removed from all devices until the problem is resolved. Two (2) quick connect header pin plugs (J1 and J2) along the bottom of the board may be used for temporary purposes I.E. bench testing using a four conductor ribbon cable. Do not use for permanent connections.

† Not evaluated by UL †† Not for use in UL Listed Systems

Data Bus E.O.L. Termination - VERY IMPORTANT!

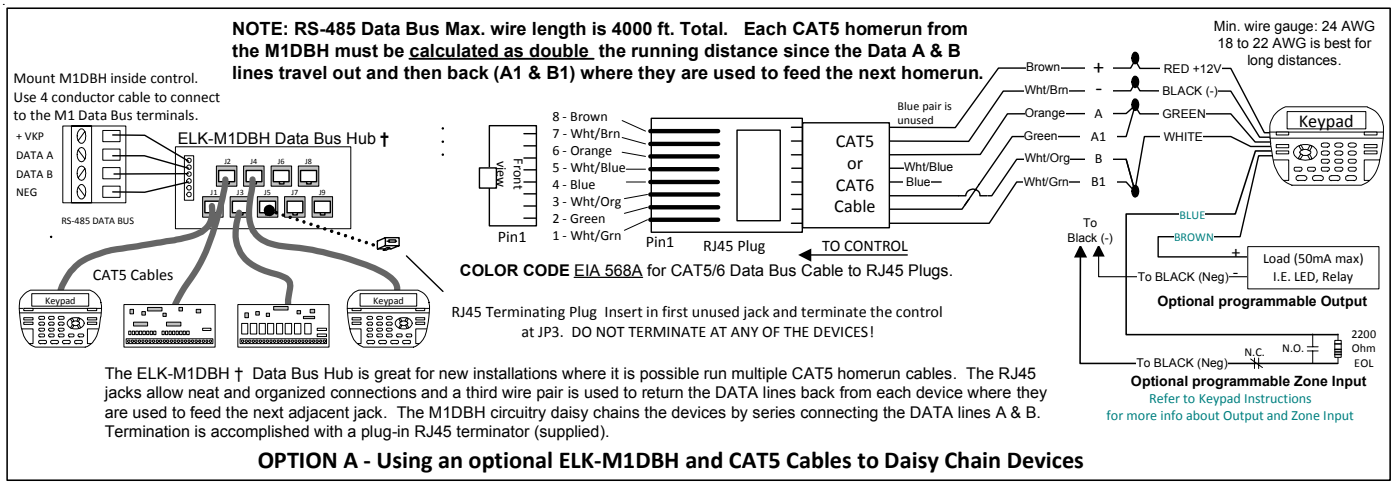
The M1 data bus comforms to EIA RS-485 standards and operates at 38,400 bits per second. The RS-485 standard stipulates there be no more than 2 home run data bus cables attached to the M1 Main Data terminals, with the end of each cable terminated by a 120 Ohm resistor connected across the data wires. The M1 board and bus devices come with built-in terminating resistors that may be activated via 2 pin jumpers (2 Gold Pins). Placing a shorting cap (included in hardware pack) on the two gold pins activates the 120 Ohm terminating resistor across Data Lines A & B. These jumpers are marked JP2 on the keypads and JP1 on the expanders. From the factory, no terminating resistors are installed. Without proper termination, noise and interference can cause data corruption and missed communications.

WARNING! Do not splice or interconnect the M1 Data Bus using Telephone type 66 or 110 punch down blocks. The RS-485 Data Bus must NEVER have more than 2 terminating resistors header/jumpers installed.


NOTE: RS-485 Data Bus Max. wire length is 4000 ft. Total length of 2 homeruns must not exceed that distance.
RS-485 DATA BUS
+VKP
DATA A
DATA B
NEG
RED
GREEN
WHITE
BLACK
Min. wire gauge: 24 AWG 18 to 22 AWG is best for long distances.
Keypad 1
Data Bus Devices e.g. Keypads, Expanders
DO NOT Jumper Terminate these devices.
Keypad 3
Jumper Terminate these two devices.

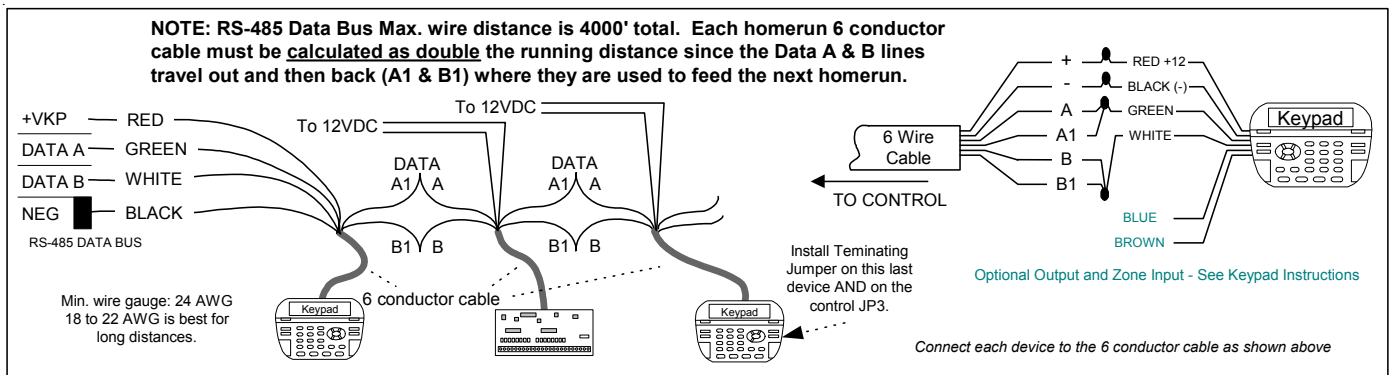
The last device on each home run cable SHOULD be terminated via the gold 2 pin terminating header/jumper. Placing a shorting cap on the pins will engage a 120 Ohm resistor across data lines A & B. If there is only 1 data bus home run cable then place shorting cap on JP3 of Main Board. See other hookups below.

Diagram of Two (2) Home Run Cables with Devices Daisy Chained along the Data Bus


NOTE: RS-485 Data Bus Max. wire length is 4000 ft. Total. Each CAT5 homerun from the M1DBH must be calculated as double the running distance since the Data A & B lines travel out and then back (A1 & B1) where they are used to feed the next homerun.
Min. wire gauge: 24 AWG 18 to 22 AWG is best for long distances.
Mount M1DBH inside control. Use 4 conductor cable to connect to the M1 Data Bus terminals.
+ VKP
DATA A
DATA B
NEG
RS-485 DATA BUS
ELK-M1DBH Data Bus Hub †
CAT5 Cables
Keypad
8 - Brown
7 - Wht/Brn
6 - Orange
5 - Wht/Blue
4 - Blue
3 - Wht/Org
2 - Green
1 - Wht/Grn
Front View
Pin1
RJ45 Plug
CAT5 or CAT6 Cable
Blue pair is unused
Wht/Blue
Blue
Brown
Wht/Brn
Orange
Green
Wht/Org
Wht/Grn
A1
B
B1
RED +12V
BLACK (-)
GREEN
WHITE
BLUE
BROWN
To Black (-)
To BLACK (Neg)
Load (50mA max) I.E. LED, Relay
Optional programmable Output
2200 Ohm EOL
N.C.
N.O.
Optional programmable Zone Input
Refer to Keypad Instructions for more info about Output and Zone Input
TO CONTROL
COLOR CODE EIA 568A for CAT5/6 Data Bus Cable to RJ45 Plugs.
RJ45 Terminating Plug Insert in first unused jack and terminate the control at JP3. DO NOT TERMINATE AT ANY OF THE DEVICES!

The ELK-M1DBH † Data Bus Hub is great for new installations where it is possible run multiple CAT5 homerun cables. The RJ45 jacks allow neat and organized connections and a third wire pair is used to return the DATA lines back from each device where they are used to feed the next adjacent jack. The M1DBH circuitry daisy chains the devices by series connecting the DATA lines A & B. Termination is accomplished with a plug-in RJ45 terminator (supplied).

OPTION A - Using an optional ELK-M1DBH and CAT5 Cables to Daisy Chain Devices

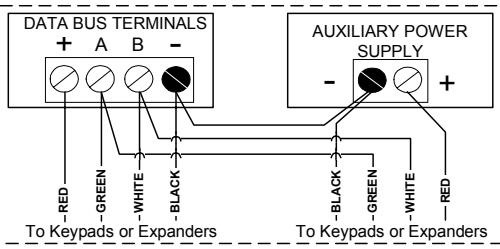


Another option for wiring multiple home runs is to use 6 conductor cabling. This allows devices to be daisy chained using an out and back configuration. This involves a 3 way splice of the data A (Green)wire to 2 wires of the 6 conductor cable (designated A and A1). Same is done for data B (White) wire. At the control wires A1 and B1 get spliced to the A and B wires feeding the next device. Terminate the last wired device and the control JP3 ONLY! The POS (+) and Neg (-) power wires should be parallel wired to the +VKP and Neg terminals or to an auxiliary Power Supply if the combined current draw exceeds the rated current available from the Control.

OPTION B - Using 6 Conductor Cables and Series Splices to Daisy Chain Connection of Data Bus Devices

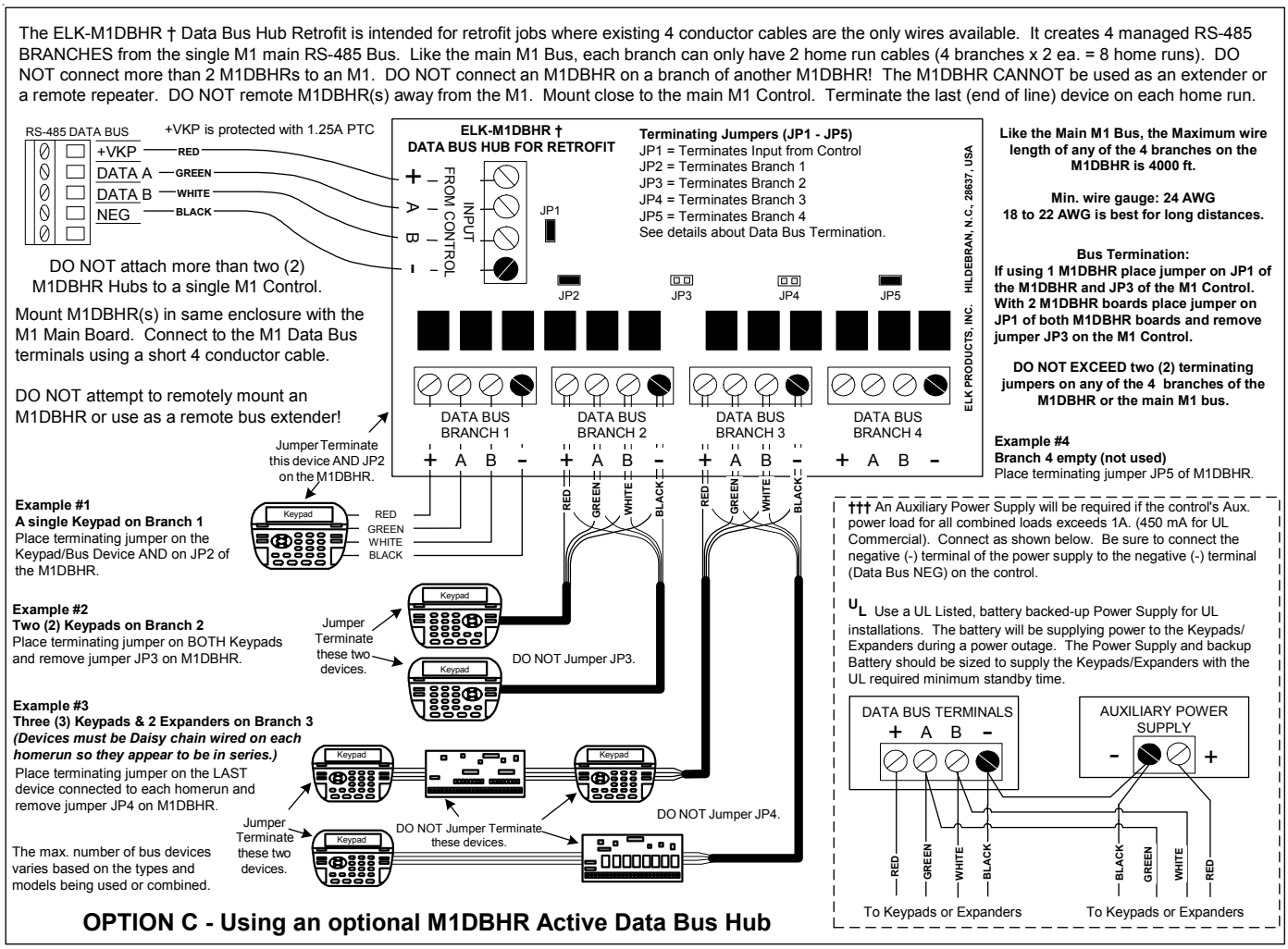
††† An Auxiliary Power Supply will be required if the control's Aux. power load for all combined loads exceeds 1A. (450 mA for UL Commercial). Connect as shown below. Be sure to connect the negative (-) terminal of the power supply to the negative (-) terminal (Data Bus NEG) on the control.

^{UL} Use a UL Listed, battery backed-up Power Supply for UL installations. The battery will be supplying power to the Keypads/Expanders during a power outage. The Power Supply and backup Battery should be sized to supply the Keypads/Expanders with the UL required minimum standby time.



† Not evaluated by UL

†† Not for use in UL Listed Systems


The ELK-M1DBHR † Data Bus Hub Retrofit is intended for retrofit jobs where existing 4 conductor cables are the only wires available. It creates 4 managed RS-485 BRANCHES from the single M1 main RS-485 Bus. Like the main M1 Bus, each branch can only have 2 home run cables (4 branches x 2 ea. = 8 home runs). DO NOT connect more than 2 M1DBHRs to an M1. DO NOT connect an M1DBHR on a branch of another M1DBHR! The M1DBHR CANNOT be used as an extender or a remote repeater. DO NOT remote M1DBHR(s) away from the M1. Mount close to the main M1 Control. Terminate the last (end of line) device on each home run.
RS-485 DATA BUS
+VKP
DATA A
DATA B
NEG
RED
GREEN
WHITE
BLACK
+VKP is protected with 1.25A PTC
DO NOT attach more than two (2) M1DBHR Hubs to a single M1 Control.
Mount M1DBHR(s) in same enclosure with the M1 Main Board. Connect to the M1 Data Bus terminals using a short 4 conductor cable.
DO NOT attempt to remotely mount an M1DBHR or use as a remote bus extender!
ELK-M1DBHR †
DATA BUS HUB FOR RETROFIT
FROM CONTROL
INPUT
+ A B -
JP1
JP2
JP3
JP4
JP5
Terminating Jumpers (JP1 - JP5)
JP1 = Terminates Input from Control
JP2 = Terminates Branch 1
JP3 = Terminates Branch 2
JP4 = Terminates Branch 3
JP5 = Terminates Branch 4
See details about Data Bus Termination.
HILDEBRAN, N.C., 28637, USA
ELK PRODUCTS, INC.
Like the Main M1 Bus, the Maximum wire length of any of the 4 branches on the M1DBHR is 4000 ft.
Min. wire gauge: 24 AWG
18 to 22 AWG is best for long distances.
Bus Termination:
If using 1 M1DBHR place jumper on JP1 of the M1DBHR and JP3 of the M1 Control. With 2 M1DBHR boards place jumper on JP1 of both M1DBHR boards and remove jumper JP3 on the M1 Control.
DO NOT EXCEED two (2) terminating jumpers on any of the 4 branches of the M1DBHR or the main M1 bus.
DATA BUS BRANCH 1
DATA BUS BRANCH 2
DATA BUS BRANCH 3
DATA BUS BRANCH 4
Jumper Terminate this device AND JP2 on the M1DBHR.
Example #4
Branch 4 empty (not used)
Place terminating jumper JP5 of M1DBHR.
Example #1
A single Keypad on Branch 1
Place terminating jumper on the Keypad/Bus Device AND on JP2 of the M1DBHR.
Keypad
RED
GREEN
WHITE
BLACK
Example #2
Two (2) Keypads on Branch 2
Place terminating jumper on BOTH Keypads and remove jumper JP3 on M1DBHR.
Jumper Terminate these two devices.
DO NOT Jumper JP3.
Example #3
Three (3) Keypads & 2 Expanders on Branch 3
(Devices must be Daisy chain wired on each homerun so they appear to be in series.)
Place terminating jumper on the LAST device connected to each homerun and remove jumper JP4 on M1DBHR.
Jumper Terminate these two devices.
DO NOT Jumper Terminate these devices.
DO NOT Jumper JP4.
The max. number of bus devices varies based on the types and models being used or combined.
††† An Auxiliary Power Supply will be required if the control's Aux. power load for all combined loads exceeds 1A. (450 mA for UL Commercial). Connect as shown below. Be sure to connect the negative (-) terminal of the power supply to the negative (-) terminal (Data Bus NEG) on the control.
UL Use a UL Listed, battery backed-up Power Supply for UL installations. The battery will be supplying power to the Keypads/ Expanders during a power outage. The Power Supply and backup Battery should be sized to supply the Keypads/Expanders with the UL required minimum standby time.
DATA BUS TERMINALS
+ A B -
AUXILIARY POWER SUPPLY
- +
To Keypads or Expanders
To Keypads or Expanders

OPTION C - Using an optional M1DBHR Active Data Bus Hub

Setting the Data Bus Address and Enrolling Device(s) into the System

Keypads and Expanders communicate over the RS-485 data bus. Each device must have a unique address setting (1 to 16) within it's device type. Keypads are TYPE 1, input (zone) expanders TYPE 2, output expanders TYPE 3, etc. Device types permit address numbers to be re-used on different device type. For example: a Keypad, Zone Expander, and Output Expander can each be set to address 2 on the same data bus because each device is a different device type. **But duplicate addresses CANNOT exist within the same device type. I.E. Multiple keypads on the same bus cannot be set to 'like' addresses.**

ADDRESS: From the factory all keypads are set to address 1. Valid addresses are 1 to 16. The first keypad on the system (Keypad 1) is automatically enrolled upon power up. Each additional keypad must be assigned a unique address and then manually enrolled from "Menu 1 - Bus Module Enrollment". (See Menu 01, for complete instructions on Bus Module Enrollment)

1. Enter Keypad setup by one of the following three (3) methods:
   a. Press and hold the " * " key for approx. 10-12 seconds (KP1 Keypads with firmware 2.1.48 or later)
   b. Press the " * " and F5 keys at the same time for approx. 10 seconds. (older KP1 Keypads)
   c. Hold ANY key pressed while applying power.
   Keypad is in setup mode when the display indicates: **Exit when done. F1 Set Addr.**
2. Press the F1 key to display the current address setting.
3. Set the desired address by entering a number from 1 to X.
4. Press the Exit key when done.

ENROLLING:

1. Press the ELK key, then 9 (or scroll up) to display 9 - Installation Programming. Press the RIGHT arrow key to select this menu. The Installer Program Code must be entered to access this menu.
2. Enter the Installer Program Code. (The default code is 172839)
3. The first Installer Programming menu display will be "Bus Module Enrollment"
4. Press the RIGHT arrow key to select this menu. "Enrolling Bus Modules" will display.
5. After a few seconds the display will show the total Bus Modules that are enrolled. To view the enrolled devices and /or remove a device press the RIGHT arrow key next to the word Edit.
6. Press the * or Exit keys to exit Installer Programming.

Auth. Required
Enter Valid Pin

01-Bus Module
Enrollment

XX Bus Modules
Enrolled, Edit ▸

† Not evaluated by UL

†† Not for use in UL Listed Systems

Section 2 - Operating the System

2.1 Introduction

The control has factory default programming which make it easy to bench test prior to installation. Terminate all zones with EOL resistors, then connect a keypad, transformer, and battery. The factory (Master) user code is 3456. This code can operate all user related features of the system. This section gives an overview of powering up and basic keypad functioning.

2.2 Powering Up (One Keypad)

After all other connections have been made and checked thoroughly, the controls AC transformer and battery may be connected. The Master Power Switch located on the lower left corner can then be turned. Upon power up the control will perform self-diagnostics and auto-enroll the first keypad (Keypad Address #1). Any additional keypads or expanders must be manually enrolled using Installer Level Programming. See "Menu 01 - Bus Module Enrollment".

NOTE: It is very important to make certain that every keypad, input expander, output expander, or any other data bus device be assigned a unique data bus address within its type. See "MENU 01 - Bus Module Enrollment" for instructions on setting keypad and expander addresses.

System Startup on Battery Only (Ordinarily the control will not startup without AC power)
If AC power is not available (new construction site, etc.) the control may be started on battery ONLY by shorting the two silver pads (located in the lower left corner of the circuit board) with a small blade screwdriver. This will temporarily bypass the AC sensing circuit and allow the control to startup. NOTE: The On/Off power switch must be in the On position.

2.3 User Codes and Authorities

The control has 199 user codes plus one installer code. Each user code may be assigned specific authorities as to what it is allowed to do. The authorities are assigned from the Installer level programming, however the code digits and user names are assigned from the keypad user menu 6 - Change User Codes. Only a Master authority level code or the Installer code is allowed to access keypad user menu 6. The User's Guide contains a description of operations accessible to the user codes. Control operations accessed by the installer passcode are slightly different.

Factory Default for User Code 1 is: 3 4 5 6 (Master Code) (1 2 3 4 5 6 if the six digit code option is enabled)

User code may be used for functions in a specific area or system-wide. Some options may be performed at any time, even while the control is fully or partially armed. The menu system is designed to be next-step-oriented. After a brief explanation of the options, the user should be able to begin operating the system immediately. For purposes of discussion, the installer and the end consumer are both considered users, but have different capabilities.

2.4 Installer Program Code and Authorities

The installer code can access all the keypad user menus and has limited arm/disarm privileges. It may be used to arm any area and disarm any area as long as the area WAS NOT armed by a user code. The Installer code can silence 24hr alarms or a Burglary alarms in an area that was armed by the installer or in an area that is not armed. The installer code can silence a trouble condition in a disarmed area. See User's Guide for a full description of arming and disarming procedures.

Factory Default for the Installer Program Code is: 1 7 2 8 3 9

WARNING! Do Not use 0 0 0 0 0 0 for the Installer Program Code.
This will cause complete lockout of Keypad Installer Level Programming.

2.5 Keypad Overview

Ready Light - ON when all burglar zones are secure and the system is OK to arm. If OFF, one or more zones are violated (not secure). For maximum security, secure all zones before arming the system. If FLASHING, one or more force-armable zones are violated. Force arming temporarily excludes violated zone(s) from the system. If a force armed zone becomes secure while system is armed, it will automatically restore to service. This is handy for a garage door as system may be armed with the door up, but will secure when door closes.

Armed Light- ON when the system is armed. The mode of arm will be indicated by the LCD display and the Exit or Stay lighted pushbuttons. This light will be OFF when the system is disarmed.

Exit Key - May be programmed for single or double press arming to the AWAY (not occupied) mode. If ON the system is armed and all perimeter sensors and interior motions are active. The Away key may be pressed during the exit delay time t to convert from Away to Away Vacation mode. Vacation mode is primarily for use with the Whenever/And/Then Rules programming of Elk-RP for long term energy savings.

Stay Key - May be programmed for single or double press arming to the STAY (occupied) mode. If ON the system is armed and all interior zones are excluded (bypassed). Only perimeter doors and windows are active in the Stay mode. This key may also be programmed to change to other Stay modes such as: Stay Instant, Stay Night, and Stay Night Instant. Since interior zones are automatically excluded once the Stay mode is activated, the M1 allows this key to Stay arm even while one or more interior zones are violated, provided they are programmed for “force arming”. The Stay Night mode re-activates any interior night zones. To prevent a false alarm the control will not allow change to the Stay Night mode when a interior night zone is violated unless it is programmed for “Force arm”.

Available Keypads Styles

ELK-M1KP LCD Keypad

ELK-M1KP2 LCD Keypad
Smaller than M1KP.

ELK-M1KPAS Arming Station
Fits a single gang electrical box.

Features and/or operational characteristics will vary by keypad style.

Keypad Models and Feature Comparison

PART NUMBER	PHYSICAL DIMENSIONS	DOOR COVER	ZONE INPUT	PROG. OUTPUT	OPT. 26 BIT PROX READER	TEMP SENSOR	FUNCTION KEYS	BACKLIGHTING LCD	BACKLIGHTING KEYS	MOUNTING OPTIONS
ELKM1KP	6.87" W x 5.25" H x 1.32" D	Yes	Yes (1)	Yes (1)	Yes - Int. or Ext.	Yes	(6) F1 thru F6	Green	Amber	Surface Only
ELKM1KP2	4.65" W x 5.5" H x .95" D	No	Yes (1)	Yes (1)	Yes - Ext. Only	No	(4) F1 thru F4	Blue	Blue	Surface Std.
ELKM1KPAS	1.3" W x 2.62" H x .3" D (keypad area not incl. elect. plate)	No	No	No	No	No	(6) F then 1- 6	N/A	Blue	(Flush w/opt. BBK2) Flush Std.

Chime Key - Will be lighted when the Chime mose is On. A tone or announcement will be heard when certain zone(s) are opened. If OFF the chime mode is off. There are four different selections: Tone only, Voice, Tone/Voice, and Off. In the programming mode this key also functions as an insert character key for text programming. The key will be lighted when Chime is On.

Bypass Key - Pressing this key followed by a zone number and the bypass key again will exclude or bypass the selected zone. This key may also be used to delete a character during text programming. When the Bypass key is lit, one or more zones are bypassed.

*** Key -** Serves as a clear or reset key. If an error is made while entering digits, press this key to clear the error. Master clear is 3 presses.

 # Key - This key is currently a duplicate of the Bypass key.

Numerical Keys - Used for entry of passcodes, programming, etc. Keys 2 - 9 also have an assigned alpha character for entering text.

ELK and Arrow Keys - The ELK and arrow keys have powerful functionality for both normal operation and programming. Pressing the ELK key displays relative information according to each application. The arrow keys allow scrolling through all available options. The user can activate or select the displayed option by pressing the right arrow key. Once an option has been selected, the user may be prompted for a passcode. Additional sub-menu options may appear to assist. The user may return to the status screen by pressing the * key.

Keypad Menus

READY TO ARM
9:00AM 08/01/03

The control offers extended Menu Options via the center navigation "ELK" key. Some menus may require a valid code to authorize. **The Factory Default Code for USER Code 1 is: 3 4 5 6** (1 2 3 4 5 6 if the six digit code option is enabled)

Access to menus 1 to 5 can be restricted via programming to only Users that have "User Code Option 8" set. Menus 6 & 8 required a Master or Installer Code. Menu 9 requires the Installer Code. Press ELK to begin, then press the UP or DOWN arrow key to select a menu. Enter a code if prompted. To select a menu press the RIGHT arrow key.

1-View/Control Automation Fncts ▸

Allows viewing or controlling of the automation functions such as Tasks, Lighting, Outputs, Temperature Sensor, Keypad Temperature, and Thermostats. Press the RIGHT arrow key to select, then choose the desired function using the UP or DOWN arrow keys.

NOTE: The automation functions must be assigned and named using the ELK-RP software. In most cases they cannot do anything unless they have been written into one of the "Whenever/And/Then" automation rules.

1-Tasks ▸

Water The Lawn
01: # Activates

† **Tasks** are like 1 button macros, performing multiple jobs with one push. To activate a task press the RIGHT arrow key and press UP or DOWN to scroll through the list of available tasks. To jump directly to a particular task, enter it's two digit number. Once the task is displayed, all it takes to activate it is to press the # key. A rule to use the "Water the Lawn" task might be: WHENEVER "Water the Lawn" IS ACTIVATED THEN TURN ON Valve 19 FOR 5 MINUTES, etc.

2-Lighting ▸

Kitchen Lights
001:=Off, # to Chg

† **Lighting** allows the individual control of lights and/or appliances which have been assigned through the ELK-RP software. Press the RIGHT arrow key to select Lighting, then press the UP or DOWN arrow keys to scroll through the list. If you know the three digit number, you may enter it to jump directly to that Lighting/Appliance. The current state of the unit will be displayed. Press the # key to toggle (change) the unit from on > off or from off > on.

3-Outputs ▸

Pump Motor Cntrl
001:=Off, # to Chg

Outputs might be relays or voltages used to actuate something like a motor, fan, pump, etc. Outputs can be turned on or turned off from this menu. Press the RIGHT arrow key to select Outputs, then press the UP or DOWN arrow keys to scroll through the list. If you know the three digit number, you may enter it to jump directly to that Output. The current state of the output will display. Press the # key to toggle (change) the output from on > off or from off > on.

4-Temperature Sensor ▸

Outside
S01:=032 Degrees

Remote "Zone" Temperature Sensors can be read from this menu. Press the RIGHT arrow key to select this menu, then press the UP or DOWN arrow keys to scroll through the list of available sensors. To jump directly to a particular sensor enter it's two digit number. The current temperature will be displayed. Press the * key to exit.

5-Keypad Temperature ▸

Keypad 01
K01:=073 Degrees

Keypad Temperature Sensors can be read from this menu. Press the RIGHT arrow key to select this menu, then press the UP or DOWN arrow keys to scroll through the list of available keypads. To jump directly to a particular keypad enter it's two digit number. The current temperature at the keypad will be displayed. Press the * key to exit.

6-Thermostat Temperature ▸

Hallway
T01:=072 Degrees

† **Thermostats** can be read from this menu. Press the RIGHT arrow key to select this menu, then press the UP or DOWN arrow keys to scroll through the list of available thermostats. To jump directly to a particular thermostat enter it's two digit number. The current temperature at the thermostat will be displayed. Press the * key to exit.

2-Reset Smoke Detectors ▸

5 Seconds Smoke Output Reset ▸

Used for resetting latched smoke detectors after a fire alarm activation..

Press the RIGHT arrow key to actuate the Reset Smoke Detector feature. This causes the power to smoke detectors to be removed for 5 seconds. During this time all fire zones will be ignored to keep an accidental alarm from occurring.

Continued on next page..

† Not evaluated by UL

3-Walk Test Area ▸
< Area? Name >

000of016 Tested ▸
A?-Violate Zones

Menu 3 permits a local walk test of all zones assigned to this keypad's area. The siren(s) and communicator are disabled during a walk test. Press the RIGHT arrow key to begin a Walk Test. The keypad displays the total tested zones adjacent to the total number of zones involved. When a zone is activated, it's name is displayed across the bottom and can be audible if the Chime mode is on.

4-View History ▸
Log

L001:01/01◆ 08:00
AreaArmed 103A1

Allows viewing of the past 512 activities stored in the history log. Press the RIGHT arrow key to view. History activities include: Arm, Disarm, Alarm, Trouble, etc. The top line displays the Log number, Mth/Day, Time, and event description. **The log can ONLY be cleared from ElkRP.**

L001 is always the most recent event. Press the UP or DOWN arrow keys to move forward and back. Event 512 will be the oldest event. The bottom line displays the event description, the extended data (zone, user, etc.) and the area number (A1-A8).

5-View Status ▸
of all zones

Allows viewing of the current status of all zones. Press the RIGHT arrow key to select. Press UP or DOWN to scroll through the zones or enter a three digit number to jump directly to a particular zone. I.E. for zone 16 enter 016. Press the * key to exit.

6-Change ▸
User Codes

Requires Master or Installer Code

001:Sel◆ Prg▸
< User Name >

For changing a user code and/or name for codes which have been previously enabled by the Installer. Only a Master code OR the installer code can access this menu. Press the RIGHT arrow key to begin. Press UP or DOWN keys to locate a user, or enter 3 digits to jump. Press RIGHT arrow key to view the existing code. To change, enter the new code digits and listen for 3 beeps to confirm. To edit the name, press the RIGHT arrow key once, then press the DOWN arrow key. Enter the text using the letters on the keys. I.E. For "K" press the 5 key twice. Move RIGHT or LEFT with the arrow keys. Press Chime to insert a space. Press Bypass to erases a letter. The UP and DOWN arrow keys shift from upper to lower case letters. Press the ELK key to save and exit.

.

7--Automation ▸
Custom Settings

Requires Master or Installer Code

CS01:◆ 00:00Time▸
Sprklr On

Allows an end user to change up to 20 settings incorporated into an automation rule. These settings can be: time of day, time duration (seconds), or a numeric value. Each custom setting has a reference number (CS) and a text description: I.E. CS01: Sprkl On 00:00 [Time] implying a time of day setting. Press the RIGHT arrow key to begin.

Press the UP or DOWN arrow keys to locate a setting, then press the RIGHT arrow key to select. Enter the new value and press the ELK key to save and exit.

8-System ▸
Settings

Requires Master or Installer Code

Menu 8 consists of 8 sub-menus used for advanced system settings. Press the right arrow key and enter a valid user code. Press the UP or DOWN arrow keys to select a sub-menu or enter the one digit number to jump directly to any sub-menu. I.E. enter 6 to jump to 86.

81-Set Sys Clock ▸
24hr format

To set the system clock press the RIGHT arrow key, then press the UP or DOWN arrow key to select the day. Next, press the RIGHT arrow key to move to Date/Time setting. Enter two digits for month, date, year, hour, and min. To exit press the * key.

82-Out1 Voice
Adjust Volume ▸

To set the volume for output 1 voice messages (non-alarm) press the RIGHT arrow key and set desired volume with the UP or DOWN keys. There are 8 settings (0-7). WARNING: PROTECT EARS! Each adjustment broadcasts a test message through Output 1. To exit press the * key.

83-Keypad ▸
Adjustments

To set keypad adjustments press the RIGHT arrow key. Then press the UP or DOWN keys to select one of the three options.

1:Set Keypad ▸
Beep Tone

To set keypad beep tones press the RIGHT arrow key, then select the desired tone using the UP or DOWN keys. There are 9 settings (0-8). When done, exit by pressing the * key.

2:Set Keypress ▸
Beep Volume

To set key-press beep volume press the RIGHT arrow key, then select the desired volume using the UP or DOWN keys. There are 7 volume levels (1-7) plus Off (0). To exit press the * key.

3:Set Backlight ▸
Dim Level

To set backlight dim level press the RIGHT arrow key, then select the desired level using the UP or DOWN keys. There are 9 backlight levels (1-9) plus Off (0). The keypad automatically dims to this setting after 30 seconds of no activity in order to save energy. To exit press the * key.

84-System Tests ▸

To perform system tests press the right arrow key. Then press the up or down arrow keys to select one of the three tests.

1:Battery Test for 30 Seconds ▸

The control's standby battery is load tested automatically every 24hrs. However, it can also be manually load tested anytime using this option. Press the right arrow key to start the test. The battery is placed under load for 30 seconds and the battery voltage and system current is displayed. If the battery falls below a set level, a Low Battery trouble will occur. If it's necessary to replace the battery, this test should be used to test and clear a Low Battery Trouble condition.

2:LCD Test ▸

To test the keypad's LCD screen press the RIGHT arrow key. The entire screen should appear black indicating all pixels are working. To exit press the * key.

3:Communicator Manual Test ▸

To manually test the communicator (dialer) press the RIGHT arrow key. Testing is done using the first phone number that is programmed to send a test code. If there is no phone number programmed to send a test code, the test will end. To exit this menu press the * key.

Send Test Silently ▸

There are two types of test, silent and monitored. To silently send a test press the right arrow key from this display. To hear the test using the inside speakers (OUT1) press the up or down arrow key to bring up the following display.

Send Test w/ speaker monitor ▸

This unique feature permits you to hear or "monitor" a single communicator test using the inside speakers (OUT1) eliminating the need for a telephone "Butt" set. Simply press the right arrow key from this display to begin.

Turn Butt Set Monitor Mode On ▸

Similar to above, this works for multiple communicator tests. Press the right arrow key to enable. Each communicator transmission will be monitored until mode is cancelled. Press the star (*) key three times to cancel. Cancelled automatically after 24hr daily battery test.

Clear Pending Dialer Reports ▸

This special option allows any pending (not reported) dialer communications to be cleared or cancelled. Typically this will be used only for initial installation and testing.

NOTE: ALWAYS NOTIFY THE MONITORING STATION BEFORE TESTING THE DIALER! If the test should fail, a Comm Fail trouble will occur. To clear a Comm Fail the dialer must be able to complete a good communication.

85-Connect 'RP' Remote Program ▸

To connect ELK's Remote Program PC software (RP) via the user assisted method, press the RIGHT arrow key and then select the connection mode with the UP or DOWN arrow keys.

1:Seize Line Attended Mode ▸

1:Seize Line Attended Mode - 1) Allows RP connection to begin on an already established voice connection between the control phone line and the RP Computer. 2) Also useful for manually answering an incoming call from the RP Computer with programming Rings to Auto Answer.

2:Seize Line UnAttended Mode ▸

2:Seize Line Unattended Mode - Pressing the RIGHT arrow key causes the control to dial the programmed RP telephone number. The RP Computer must be in the "wait for call" mode.

NOTE: UL requires that a Technician be On-Site when doing Remote Programming.

86-System Diagnostics ▸

This is a collection of tools for diagnosing system problems. Press the RIGHT arrow key and enter a valid user code to begin. Press the UP or DOWN keys to select one of the four tools:

1:DataBusErrors ◆ T2A1 Retry 00000

This tool is for use in conjunction with Tech Support to diagnose data bus retries and errors. It displays the device type and number of retries accumulated since the last power-up. T=Device type, A=The Address within the device type

2:Sys Volt/Curr ◆ 13.8V 0.440Amps

This tool displays the control's voltage and average current being drawn from the power supply.

3:Zone=001 Volts Display Level ▸

This tool allows the voltage on each zone to be displayed in real time. It changes as contacts or devices are violated. Press the RIGHT arrow key to begin.

Zn=001 Volt=07.2 L04.6 H09.0 A132

Use the UP or DOWN keys to scroll through each zone. The displayed information consists of: the present zone voltage, the L low and H high alarm thresholds, and the analog (A to D) equivalent of the zone voltage..

4:LastOnHookTele Line V=57,+-20%

This is a read only screen displaying the telephone line voltage during the last on-hook condition. It is an approximate measurement accurate to only +-20%.

87-Custom Message Record ▸

† This option is used in conjuction with a house telephone (microphone) to record up to 10 custom voice messages. Each message occupies a 6 second block. Two or more consecutive blocks may be linked together for longer times. Total record time cannot exceed 60 seconds. These messages require the Elk-RP software, which utilize these messages together with the built-in 500+ word vocabulary to construct voice phrases for many uses, including the voice dialer. Press the RIGHT arrow key to begin custom message record.

VM01◆ 1 Block(s)
Record< Play>

Selects any one of the custom messages (VM01-VM10) for playback or recording. Press the UP or DOWN arrow keys to select. To Play the selected message press the RIGHT arrow key. The message will play through Output 1 speakers. To record a new message press the LEFT arrow key. To exit press the * key.

6 Sec Blocks=01◆
Record< PlayAll>

This sets the number of consecutive 6 sec. record blocks. The default is 01 blocks which is normally long enough for most applications. However, to create a longer message press the RIGHT arrow key and enter the number 01 to 02, etc. NOTE: Creating longer messages reduces the total number of custom messages. This screen also allows all messages to be played "PlayAll" by pressing the RIGHT arrow key. When ready to record press the LEFT arrow key.

6 Sec Blocks=01◆
Rec< LiftPhone!

This is the prerecord screen. To begin recording: 1) lift the house phone (off hook), 2) press the LEFT arrow key, 3) start speaking. To stop recording press the "0" key. If stop is not pressed, recording will automatically end after 6 sec. (or the total number of blocks times 6 seconds).
NOTE: A local house phone is used as the microphone. Installer programming menu 07, option 1, must be set to a 1 in order for the local phone to be recognized by the control.

VM01◆ 1 Block(s)
Record< Play>

This will display as soon as recording has stopped. To play the new message press the RIGHT arrow key. To record the message again press the LEFT arrow key and follow the same procedures again. To exit press the * key.

Step by step summary of procedures for recording a custom message:

1) Verify that a house telephone is connected to the control's T1 and R1 terminals and that Installer menu 07, option 1 is set to a 1. This allows the control to recognize the telephone and allow it to be used as a microphone.
2) Go to the user menu 8-System Settings by pressing the ELK key and entering 8. Press the ▸ key and enter a valid user code. Press 87 to reach the custom message record screen.
3) Using the Up/Down arrow keys, select the voice message to record VM01 to VM10. There are 10 custom messages.
4) Press the ◂ key and select the number of 6 second blocks for your message. Hint-rehearse and time the message, if it is greater than 6 seconds then increase the number of consecutive blocks as required.
5) Lift the telephone handset and press the ◂ key to begin the recording. The recording will not start until the handset is off-hook and the ◂ key is pressed.
6) Record your message by speaking into the handset. If the message is shorter than the amount of time selected then press 0 to stop recording. Otherwise, recording will stop when the number of blocks is reached.
7) Press the Right arrow key to play the message. The message will be heard through the telephone handset if it is still off-hook. Otherwise the message will be directed to the amplifier connected to output 1.

9-Installation Programming (0) ▸

Requires Installer Code

From this menu you may press the RIGHT arrow to enter Installation Level Programming. If the Installer Programming Code has not already been entered it will be required at this time.

REFER TO PAGE 22 FOR PROGRAMMING INSTRUCTIONS

NOTE: The Remote Programming RP software can be used to lockout certain local program capabilities for "anti-takeover" purposes. The number in the lower right corner of this menu will indicate the level of lockout as follows:
(0) = No lockout,
(1)=Lockout Telephone number programming - view everything,
(2)=Lockout ALL programming - view everything,
(3)=Lockout ALL Programming and Viewing. This can only be set or removed from the ELK-RP Software.

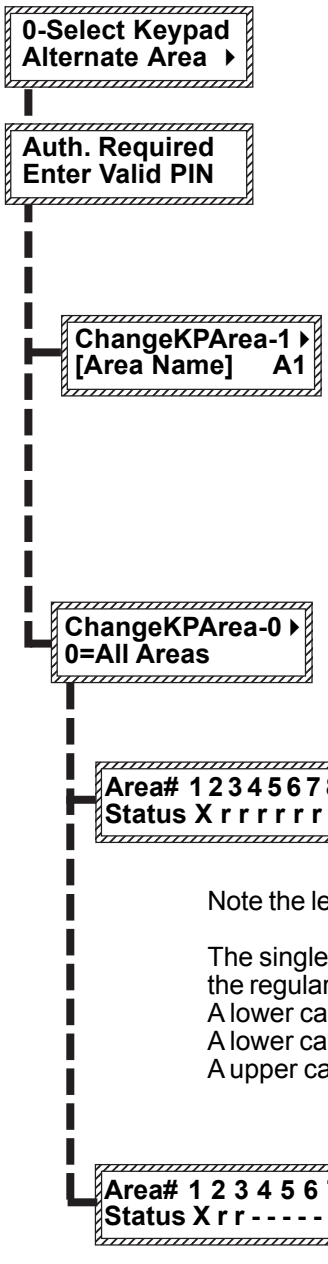
† Not evaluated by UL

Menu 0 - Select Keypad Alternate Area - Multi-area (Partition) Operation

This menu allows the keypad to be mapped temporarily to any other area, allowing multi-area (partitioned) operation. An individually mapped area can be armed, disarmed, and controlled just as if the keypad were permanently assigned to that area. It may also be used to access a consolidated display of all areas at once, showing the status of each area.

To reach the keypad menus press the center navigation key labeled "ELK". A user code may be required depending on how the control is programmed. The four arrow keys around the Elk key are used to scroll, backup, etc. Pressing the RIGHT arrow key will select the displayed menu.

1. Press the ELK key. Enter a user code if prompted.
2. Use the UP or DOWN arrow keys to find menu "0-Select Keypad Alternate Area".


0-Select Keypad
Alternate Area
Auth. Required
Enter Valid PIN
ChangeKPArea-1
[Area Name] A1
ChangeKPArea-0
0=All Areas
Area# 1 2 3 4 5 6 7 8
Status X r r r r r r r
Area# 1 2 3 4 5 6 7 8
Status X r r - - - - - r

Press the RIGHT arrow key to select this menu and display the following:

Enter a valid user code. The control does not allow (restricts) mapping or viewing of areas that are not authorized for the user code.

MAPPING TO AN INDIVIDUAL AREA

Enter an area number from 1 to 8 OR scroll UP and DOWN with the arrow keys.

Press the Right Arrow key to map the Keypad to the area shown. The LCD display and the Ready / Armed LEDs will show the status for the mapped area for 1 minute. During this minute, it is possible to arm, disarm, bypass, etc. the mapped area from this keypad. Each time a key is pressed the 1 minute is restarted. However, after 1 minute of no keypress activity, the keypad will return to its original primary assigned area.

ACCESSING A CONSOLIDATED DISPLAY OF ALL VALID AREAS

Entering "0" for the area number immediately maps the Keypad to a consolidated 'snapshot' of all authorized areas. This permits quick arming and disarming only. If an area is not ready to arm it will be necessary to map individually to that area to view the violated zone(s) and either secure or bypass them prior to arming.

This example shows all 8 areas, meaning that the User Code was valid for all 8. **The display only shows the areas for which the user code is authorized.**

Note the letter beneath each area number.

The single upper case "**X**" indicates the primary area. This area is controlled exclusively from the regular operation screens.
A lower case "**r**" below an area indicates the area is Ready to Arm.
A lower case "**n**" below an area indicates the area is Not Ready.
A upper case "**A**" below an area indicates the area is Armed.

This example shows the user code was only authorized for areas 1, 2, and 3. The unauthorized area(s) have a "**-**" below them.

To change or 'toggle' the arm status of an area, press the number key representing the area number. IMPORTANT: The area status is not "real time". It is a snapshot taken when the **RIGHT arrow key** was pressed. If a zone has since become violated the area will still be displaying "r", however the letter will immediately change to "n" and the keypad will emit an error tone when an attempt is made to arm by pressing the area number.

When finished, press the "*" key to exit.

Section 3 - Programming The Control

3.1 Introduction

The Security functionality of the M1 Control can be programmed either from an ELK-M1KP LCD Keypad OR from the ELK-RP PC Software. The keypad features a menu-driven “Text” based interface with simple Yes/No answers for most options. After just a short amount of experience the average installer will not even require an instruction manual to keypad program the control.

For the Automation functionality the ELK-RP PC Software is a requirement. The options and capabilities available for automation are so unique and powerful that it takes a PC to make use of all the benefits. The M1 features a powerful “Whenever/And/Then” RULES based programming that allows almost any imaginable operation.

3.2 Local Keypad Programming

There are two levels of operation for programming the control locally, user level and installer level.

- User level programming provides the ability to add, change, or delete user passcodes and names. It also allows custom automation settings to be viewed and changed. A master user code is required to access the user code and custom settings screens. User programming is explained in the User’s Guide.

- Installer level programming allows total customizing of the Security operating features. Only the installer code may access this level. If the installer code is lost or forgotten, it is impossible to program the control locally. Anyone attempting installer level programming should be familiar with the contents of this publication prior to programming the control panel. If remote programming is used, it is possible to “lock out” or prevent takeover of a control by another installation company by selecting “Lockout Local Prog.” This prevents the installer passcode from gaining access to programming via an LCD keypad. The installer passcode may still be used for the non-programming functions described in Chapter 2. Lockout Local Prog does not affect remote programming.

3.3 Local or Remote Computer Programming (ELK-RP) and Anti-Takeover

ELK-RP programming utilizes extensive error checking and security safeguards, including data encryption, password log-on, serial number, and dealer assigned RP access code. The serial # identifies the control to RP while the RP access code identifies the computer to the control prior to a programming session. RP loads the access code during the first connection. It cannot be viewed or changed from local keypad programming. In addition to these safeguards, you can set an anti-takeover option from RP which prevents certain keypad programming. Even a total default of the panel programming cannot reset the anti-takeover option once it is set..

The Factory Default Elk-RP Access Code is: 2 4 6 8 0 1

NOTE: UL requires that a Technician be On-Site when doing Remote Programming.

3.4 Area Partitioning

The control may be divided into 1 to 8 independent areas (partitions). Each area appears as a full-featured system, allowing one control to be shared by multiple, independent departments within a common structure. Zones, User Codes, and Keypads may be assigned to any 1 area up to the maximum number available. An example is a single building divided into room(s) to be armed/disarmed separately. Mount the control in a secure area (common utility closet) with dedicated and uninterrupted AC power and telephone service. Then assign zones, codes, and keypads to each department.

Output 1 siren/voice activates on all alarms, regardless of the area. The RP Software Rules can be used create additional (separate) outputs. When reporting to the central station events like AC Power Failure, Automatic tests, Low Battery, etc., are considered system reports and are transmitted using the Area 1 account number. If area partitioning is not desired, simply designate all zones to a single area (Area 1) which is the factory default setting for zones 1-16.

COMMON AREA - Another popular feature is the ability to have one or more areas made “common” to Area 1. This is often referred to as a “Vestibule Feature”. Any of the Areas 2 thru 8 may be made common to Area 1. The result is: Area 1 cannot be armed until all its common areas are armed. Once armed, Area 1 will disarm if any common area becomes disarmed. This is good for lobbies or vestibules shared by two or more people. Each area must have its own keypad. **NOTE: If you want Area 1 to automatically arm when all its common areas become armed, use a Whenever/And/Then rule from the RP software to do this.**

3.5 Communicator Setup Checklist

The Communicator (Dialer) can dial up to 8 phone numbers plus RP. Digital reporting formats include: Pulse 4+2, SIA, Contact ID, and Pager. There is also a Voice † format which can be commanded from the RP Rules Programming to call a persons home or cellphone and deliver a voice message. Use the following checklist for each required telephone number.

1. Under Menu 08 - Telephone Account Setup, select one of the telephone numbers and program the following:
   Option 01: Select the desired reporting format - 0=Disable, 1=Contact ID, 2=SIA, 3=Pulse 4+2, 4=Pager, 5=Voice †
   Note: The Voice format (5) cannot be enabled from keypad programming. It can only be programmed from the Elk-RP Software using the Whenever/And/Then Rules.
   Option 02: Set the priority for the first (primary number) to 0 = Always Report.
   Option 03: Program the telephone number digits to be dialed. No special start or ending characters are required.
   Option 04: Set the dial attempts to greater than 0. For Digital reports 8 is suggested. For Voice the max. is 2.
   Option 05 Program the digits for the account number to report. Each area (partition) has its own Acct. Number.
   Option 13: Select Yes to have Area info, Zone Alarms, Zone Restores, and Zone Unbypasses reported to this Tel #.
   Option 14: Select Yes if you wish to have Zone Bypasses reported to this Tel #.
   Option 15: Select Yes if you wish to have Zone Troubles reported to this Tel #.
   Option 16: Select Yes if you wish to have User (Open/Close) Reports reported to this Tel #.
   Option 17: Select Yes if you wish to have Global System Events (AC Fail, Low Battery, etc.) reported to this Tel #.
   Option 18: Although not required, you may program a text name for each telephone number.
2. Under Menu 09 - Area Reporting Codes, select the area (partition) and program the desired options such as: Dialer Delay, Alarm Abort, Auto Open/Closings, etc. then .
3. Under Menu 10 - Zone Reporting Codes, select the zone number and program the desired options such as: Zone Alarms, Restores, Bypasses, or Trouble.
   Option A: For Zone Alarm program a two digit code. To have the automatic SIA or Contact ID report codes transmitted simply program a nonzero value. I.E. Program a 1 (01).
   Option R: For Zone Restore program a two digit code. For automatic SIA or Contact ID codes program a 1 (01).
   Option B: For Zone Bypass program a two digit code. For automatic SIA or Contact ID codes program a 1 (01).
   Option T: For Zone Trouble program a two digit code. For automatic SIA or Contact ID codes program a 1 (01).
4. Under Menu 11 - F Key Reporting Codes, select and program the alarm code for each desired Keypad Panic Key. NOTE: Keypad Panics only have Alarm report codes, they do not have restore codes. For automatic SIA or Contact ID codes program a 1 (01).
5. Under Menu 12 - Sys Report Code Options & Codes, select and program each desired option such as: AC Fail, Low Battery, Automatic Test, and other system wide options, including the time values for certain options. For automatic SIA or Contact ID report codes program a 1 (01).
6. Under Menu 13 - User Report Codes, select and and program an Open or Close report code for any User(s) that you wish to track arm/disarm events, including arm/disarm by the Installer Code or Elk-RP computer.

3.6 Entering Installer Level Programming

1. Press the center 'ELK' key once followed by the DOWN arrow key until display reads "9-Installation Programming". NOTE: The keypad may beep and display the following:

2. Enter the Installer Program Code when required.
   Press the right arrow key to select the "Installation Programming" option.

The Factory Default Installer Program Code is: 1 7 2 8 3 9

For security against unauthorized programming changes, the installer code should be changed from its factory default setting. This can be done from Menu 07 - Globals System Definitions, Option 42.

Once the Installer Code has been entered, the first programming menu will display and a 4 minute timer will be started. If there is no key-press activity during this time period the control will automatically exit from the programming mode. It is easy to navigate around and between the programming menus and options using the up and down arrow keys. When the correct menu or option is located, press the right arrow key to proceed into that menu.

Refer to the Quick Reference Guide on the following page to locate a particular menu or to see what options appear under each menu. Refer to the individual menus and their option descriptions for details about each of the programmable items.

† Not evaluated by UL

ELK-M1G QUICK REFERENCE - MENU PROGRAMMING

Menu 01
Bus Mod Enroll

Enrolling
-Disp Totat Modules
-Allow Module Edit

Menu 02
User Code Auth.
User 1
(1) Area #
(2) Arm
(3) Disarm
(4) Bypass
(5) Access
(6) Temporary
(7) Master
(8) Menu 1-5
(9) Duress
(10) [Name]

Menu 03
Area Defs
Area 1
(1) Exit Delay 1
(2) Entry Delay 1
(3) Exit Delay 2
(4) Entry Delay 2
(5) Auto Stay
(6) Exit Restart
(7) Closing Ringback
(8) SglKey Quickarm
(9) DblKey Quickarm
(10) StayKeyScroll
(11) Stay Instant
(12) Night Scroll
(13) Night Instant
(14) StayChgArmed
(15) [Name]

Menu 04
Keypad Defs
Keypad 1
(1) Area Assgn
(2) Silent Entry
(3) Silent Exit
(4) Silent Chime
(5) Dark in 60 sec
(6) Show Date/Time
(7) Show Temp
(8) Show Area
(9) Byp Req Code
(10) F1 Key Def.
(11) F2 Key Def
(12) F3 Key Def
(13) F4 Key Def
(14) F5 Key Def
(15) F6 Key Def
(16) [Name]

Menu 05
Zone Defs
Zone 1
(1) Definition
(2) Type
(3) Area Assign
(4) Silent Alarm
(5) Dialer Delay
(6) Listen-In
(7) Bypass
(8) Force Arm
(9) Swinger
(10) Per. Trip
(11) Fast Loop
(12) Chime
(13) Cross Zn
(14) [Name]

Menu 06
Cutoff Timers
(1) Burglar
(2) Fire
(3) Medical
(4) Police
(5) Carbon Mon
(6) Emergency
(7) Freeze
(8) Gas
(9) Heat
(10) Water
(11) Aux1 24hr
(12) Aux2 24hr

Menu 07
Global Options
(1) Tel Remote
(2) 12hr TimeDisp
(3) DD/MM Disp.
(4) Celcius Disp.
(5) DST Observe
(6) Fast Loop Tm
(7) SlowLoop Tm
(8) Cross SelfVer
(9) Cross Zn Tm
(10) Aud Trbls
(11) 6 digit codes
(12) CodeLockout
(13) Common Area
(14) Out1 Yelp to Buz
(15) Out1 Start Vol.
(16) Out1 Max. Alm.
(17) Out1 Max. Voice
(18) Out1 Max. NonAlm
(19) Out1 'No Talk'
(20) Out1 Say Sys
(21) Out1 Say Alms
(22) Out1 Say Zn Status
(23) Out1 Say Sys Tbl
(24) Out1 Say Zn Tbl
(25) Out1 Say Chime

Menu 07
Global Options (cont.)
(26) Out 2 Change to Voltage
(27) Out 2 Delay Time
(28) Out 2 Sgl Alarm Lockout
(29) Rings til Answer
(30) Ring/Hang/Answer
(31) 2 Way Listen-in Enable
(32) 2 Way Callback Time
(33) CS Alm Verify Time
(34) Baud Rate Port 0
(35) Xmit Event Log
(36) Xmit Zone Changes
(37) Xmit Output Changes
(38) Xmit Task Changes
(39) Xmit Light Changes
(40) Xmit Keypad Keys
(41) Req Code User Menus 1-5
(42) Local Prog. Code
(43) Serial Number [Read Only]
(44) Software Ver. [Read Only]
(45) Default Control Options
(81) Default User Codes
(82) Default Areas Data
(83) Default Keypads Data
(84) Default Zones Data
(85) Default Zone Names
(86) Default Cutoff Timers
(87) Default Global Data
(88) Default Telephone Data
(89) Default Telephone Numbers
(90) Default Area Report Codes
(91) Default Zone Report Codes
(92) Default System Report Codes
(93) Default User Report Codes
(94) Default Voice Messages
(95) Default Wireless Definitions
(99) Default Entire Control Panel

Menu 08
Telephone #'s & Accts
Telephone #1
(1) Always Report
(2) Number
(3) Format
(4) Attempts
(5) Acct #1
(6) Acct #2
(7) Acct #3
(8) Acct #4
(9) Acct #5
(10) Acct #6
(11) Acct #7
(12) Acct #8
(13) Report Area/Alm /Rest/Unbypass
(14) Report Zn Bypass
(15) Report Zn Troubles
(16) Report User Op/Cl
(17) Report Sys Globals
(18) [Name]

Menu 09
Area Report Codes
Area 1
(1) Dial Delay Time
(2) Abort Code
(3) Cancel Time
(4) Cancel Code
(5) Close Auto
(6) Close Early
(7) Close Extended
(8) Fail to Close
(9) Late Close
(10) Keyswitch Close
(11) Duress Code
(12) Open After Alarm
(13) Open Early
(14) Fail to Open
(15) Open Late
(16) Keyswitch Open
(17) User Lockout
(18) Exit Error
(19) Fail to Comm

Menu 10
Zone Rpt Codes
Zone #1
Alarm Code
Restore Code
Bypass Code
Trouble Code

Menu 11
Keypad
Report Codes
Keypad 1
(1) F1 Key Alarm
(2) F2 Key Alarm
(3) F3 Key Alarm
(4) F4 Key Alarm
(5) F5 Key Alarm
(6) F6 Key Alarm

Menu 12
System Rpt Codes
(1) AC Fail Delay
(2) AC Fail Code
(3) Auto Test Code
(4) TstTime hr:mm
(5) Days betweenTest
(6) Aux Overcurrent
(7) Exp Module Tbl
(8) Installer Begin
(9) Installer End
(10) Log 80% Full
(11) Low Battery
(12) Memory Error
(13) RP Download
(14) Tel Line Fault
(15) Output 2 Tbl

Menu 13
User Rpt Codes
User #1
(1) Open Code
Close Code

User 100
- Installer-
(1) Open Code
Close Code

User 101
- RP Computer Upload/Download
(1) Open Code
Close Code

Menu 14
Wireless Defs
1: ReceiverOptions
(1) Receiver Size
(2) ZnBank(Start Zn)
(3) Reg Supv. Hrs.
(4) Fire Supv. Hrs.
2: Transmitter Opts
^ Select Transmitter
(1) Enable Xmtr.
(2) Supv. Type
(3) Enable Option 1
(4) Enable Option 2
(5) Keyfob User ID
3: Learn Transmitter
^ Select Transmitter
(1) Xmtr to Learn
(2) Push Xmtr
4: Keyfob Event Def.
(1) Button 1 Code
(2) Button 2 Code
(3) Button 3 Code
(4) Button 4 Code
(5) Button 5 Code
(6) Button 6 Code
(7) Button 7 Code
(8) Button 8 Code

Menu 01 - Bus Module Enrollment

01-Bus Module Enrollment ▸	Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

NOTE: Every data bus device: Keypad, Input (Zone) Expander, Output Expander, etc. MUST have a unique address within its type. This menu is then used to enroll the device into the system. SEE DETAILS BELOW:

Bus Module Enroll	Description of Option
Enrolling Bus Modules	Press the RIGHT arrow key to select this menu and automatically start the bus enrollment process. ALL data bus devices which are presently connected to the data bus should become enrolled.
XX Bus Modules Enrolled, Edit▸	The enrollment process only takes a few seconds. Once complete, this summary screen will appear displaying the total number of bus modules that were found and enrolled. **To edit and/or view the devices individually, press the RIGHT arrow key one time.**
Keypad T1 ◆ Addr=01	Each enrolled keypad/device can be viewed one by one. The first device will always be Keypad 1 with a T1 (for type 1) and Addr=01 (for address 01). As explained below, different kinds of devices can be identified by their device "Type". Pressing the Up or Down arrow keys will scroll through each enrolled device.
Keypad T1 ◆ Addr=02 ◆▸	If a device is removed from the data bus, it should be removed by repeating the enrollment process. The control will only enroll the devices that are connected. It will remove any previously enrolled devices that it does not see.
End Enrollment 0x Bus Modules	After the last device is reviewed, the next press of the Up arrow key moves to the "End Enrollment" screen which once again displays the total number of devices enrolled.

DATA BUS DEVICE TYPES AND ADDRESSES: Each data bus device is a specific "Device Type". Keypads are TYPE 1, Input (Zone) Expanders are TYPE 2, Output Expanders are TYPE 3, Serial Port Expanders are TYPE 5. Any new devices designed will be assigned a Device Type. Every data bus device MUST have a unique "Address" setting within its type. Valid Input Expanders addresses are 2 to 13, Output Expander addresses are 1 to 13. The address determines the starting and ending zone or output numbers for that expander. See chart below:

Addr	Input Exp	Output Exp	Addr	Input Exp	Output Exp.	Addr	Input Exp	Output Exp.
1 =	N/A (main bd)	Outputs 1-16	6 =	Zone 81-96	Output 65-80	11 =	Zone 161-176	Output 161-176
2 =	Zone 17-32	Output 17-32	7 =	Zone 97-112	Output 97-112	12 =	Zone 177-192	Output 177-192
3 =	Zone 33-48	Output 33-48	8 =	Zone 113-128	Output 113-128	13 =	Zone 193-208	Output 193-208
4 =	Zone 49-64	Output 49-64	9 =	Zone 129-144	Output 129-144			
5 =	Zone 65-80	Output 65-80	10 =	Zone 145-160	Output 145-160			

INPUT AND OUTPUT EXPANDER ADDRESSES: Locate the bank of four white (DIP) switches along the top edge of the board. Each switch has a position of Off or On (0 or 1) and a binary value (1, 2, 4, 8). The addition of the binary values (sum total) for the switches set to the On position determines the data bus address. For example: Data bus address 5 is set by placing switches 1 and 4 to the On position (1 + 4 = 5). All other switches must be in the down or Off position.

KEYPAD ADDRESSES: All keypads are factory set to address 1. Valid addresses are 1 to 16. The first keypad on the system (Keypad 1) is automatically enrolled upon power up. Each additional keypad must be assigned a unique address and then manually enrolled from "Menu 1 - Bus Module Enrollment". To set the address on a keypad do the following:

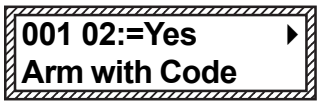
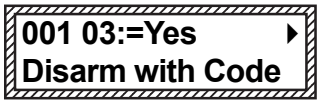
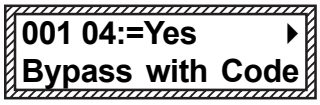
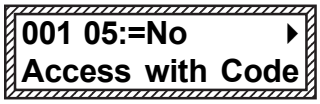
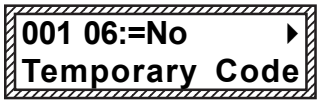
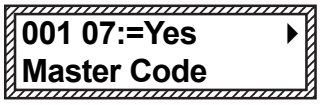
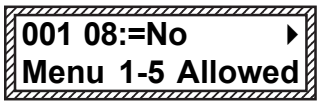
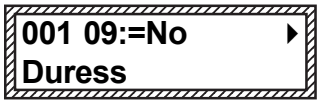
1. Hold down a key while applying power OR press and hold the (Asterisk) " * " and F5 keys for 5 seconds.
2. Press the F1 key, then use the UP or DOWN arrow keys to set the desired address number.
3. Press the EXIT key when done.

NOTE: If a device is removed from the data bus, it should be un-enrolled to prevent a trouble. To replace a defective device, set the address to the same value as the old unit and initiate the Bus Enrollment process.

Menu 02 - User Code Options

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

Default Code for <u>User Code 1 is: 3 4 5 6</u> Note: If six digit code option is enabled, the default will be 1 2 3 4 5 6. See Menu 07 - Global System Definitions, Option G11

User Code Options	Description of Option
	User 1 (001) is the first to display. Press the right arrow key to program, or press the up or down arrow keys to select another user. Enter three digits to jump to a specific user. The user name is displayed along the bottom.
	This option assigns the areas(s) in which this code may be used. For example: if the numbers 1,2, & 4 are displayed, the code may be used in those areas. To assign or remove an area press the numbers keys 1 thru 8. Each press toggles the number on/off.
	Selects Arm privileges. If Yes, this code can Arm it's assigned area(s) (see option 01 above) from a keypad that is also assigned to the desired area. If No, this code cannot be used to Arm.
	Selects Disarm privileges. If Yes, this user code can Disarm it's assigned area(s) (see option 01 above) from a keypad that is also assigned to the desired area. If No, this code cannot be used to Disarm.
	A Yes allows this code to Bypass zones whenever Menu 04-Keypad Definitions, Option 09, "Byp Key Req PIN" is set to Yes. Code and Keypad must be in the same area. Default value for both these options is No (code not required for bypass).
	A Yes allows this code to activate the Access Keypad Events 1313-1328 for the keypad where code is entered. Use the Whenever/And/Then Rules from Elk-RP to assign an output to this event for tripping a door strike or lock. **Note: If this code is enabled for arming, it will be necessary to press the Exit or Stay key to arm after the code.**
	If Yes, this code will be restricted from disarming whenever the control has been armed by a regular (non temporary) code. In other words: The control MUST be armed by this code (or another temporary code) in order for it to allow disarming by a temporary code. A temporary code might be used for cleaning, repair personnel, etc.
	A Master Code can be used to review, change, or delete other users, and to modify selected system options. Only one Master code is needed per system. For security purposed, multiple Master codes are not recommended.
	When Menu 07 - Global System Definitions, Option 41, "Require Code User Menu 1-5" is set to a Yes, this option is then used to set which codes are allowed to access Menus 1 - 5. **NOTE: Menus 6, 7, and 8 are only available to a Master or Installer code.**
	If Yes, this code will cause a silent Duress or "holdup" alarm to activate when the code is used to arm or disarm the system. **CAUTION: The communicator report code MUST also be programmed! This feature is dangerous and should be used with caution.**
	To edit the User Name text (max. of 16 characters) press the left arrow key. Enter text using the number keys. I.E. For a "K" press the 5 key twice. To move the cursor, press the RIGHT or LEFT arrow keys. The Chime key inserts a space, the Bypass key erases 1 digit. The up/down keys to toggle between upper and lower case. Press the ELK key when complete.

Menu 03 - Area Definitions

03-Area ▸ Definitions	Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.
Area Defintions	**Description of Option**
A1: Sel◆ Prg▸ Area 1	Of the 8 potential areas (partitions), Area 1 is the first to display. Press the right arrow key to program, or press the up or down arrow keys to select another area. To jump to a specific area enter the number (1-8). The area name is displayed on the bottom.
A1 01:=060 ▸ Exit Delay1 Time	The amount of exit time in seconds for all zones programmed as Exit Delay 1. Range is 045 to 255 seconds. Default value is 060. **If an Exit Delay 1 zone is enabled for force arm, its exit time will be the greater of the values for Exit 1 or Exit 2. Do not enable force arm on Exit Delay 1 zones if this operation is not desired.**
A1 02:=030 ▸ Entry Delay1Time	The amount of entry delay time in seconds for zones programmed as Entry Delay 1. Range is 030 to 255 seconds. Default value is 030.
A1 03:=060 ▸ Exit Delay2 Time	The amount of exit delay time in seconds for zones programmed as Exit Delay 2. Range is 045 to 255 seconds. Default value is 060. **See note above regarding force arm and Exit Delay 1 zones.**
A1 04:=030 ▸ Entry Delay2Time	The amount of entry delay time in seconds for zones programmed as Entry Delay 2. Range is 030 to 255 seconds. Default value is 030.
A1 05:=No ▸ AutoStay No Exit	If Yes, the control will switch from AWAY mode to STAY mode at the end of the exit delay time if no exit zone is violated (no exit detected). **NOTE: This tracks the longest of the two exit timers**. All interior zones are bypassed in the STAY mode. Default value is No.
A1 06:=Yes ▸ Exit1TimeRestart	†† If this option is set to Yes (default), the exit procedures will be affected in three ways:

1) Additional Exit1 “Grace” feature - During the initial Exit Delay 1 time if the zone violates a second time and restores, the exit timer will automatically restart one time. I.E. If the Exit1 door is opened, closed, and then opened again the timer will restart. **NOTE: This only works on Exit Delay 1 zones and the timer only restarts one time. It does NOT work if the zone is enabled for force arm!** This features complies with the SIA CP-01. **†**

2) “Leave for Work” or “Pet” feature - When armed in one of the Stay modes a User may press the Exit key to re-start the exit delay in order to open an exit/entry door and leave for work. The system remains in the Stay mode in case other family members are still in the house. This can also be used to let a pet outdoors. When the pet is ready to come back inside the User can press the Exit key again to restart the timer and open the door.

3) Going from Stay to Away Mode - When armed in one of the Stay modes a User may change the arm mode to Away by pressing the Exit key twice in short succession (within 3 seconds) and the leave the building.

Exit Error If an entry/exit zone is violated when the Exit Delay expires, the **Exit Error Feature** will be activated. The local siren will sound immediately and the Entry Delay warning will begin. IF the control is not disarmed before the delay expires the communicator will report the alarm along with an Exit Error code, provided these codes are programmed. An Exit Error event flag will also be set which can be used by the “Whenever/And/Then” rules (refer to the ELK-RP software) to sound a siren, or blink a light, or whatever. Exit Error complies with SIA CP-01. **†**

† Not evaluated by UL **††** Not for use in UL Listed Systems

Menu 03 - Area Definitions (continued)

Area Definitions	Description of Option
A1 07:=No Send▸ Closing Ringback	If Yes, a Closing Ringback signal (otherwise known as closing report successful) will be sent to all the keypads when the Communicator transmits a closing report and the Central Station Receiver kissoff (acknowledgement) is received. The Exit Delay time will be restarted at this time. The default value is No.

NOTE: Refer to Appendix F for Commercial Burglar requirements.

A1 08:=Yes ▸ Sgl Key Quickarm	If Yes, the control can be armed by a single press of the Exit or Stay keys. No code is required except to disarm. **Note: This option cannot be set to Yes if "Dbl Key Quick Arm" (see below) is set to Yes.** The default value is Yes.
A1 09:=No ▸ DblKeyQuickArm	If Yes, the system can be armed by a double press of the Exit or Stay keys. The second press must follow the first very quickly. **Note: This option cannot be set to Yes if "Sgl Key Quick Arm" (see above) is set to Yes.** The default value is No.
A1 10:=Yes ▸ Stay Key Scroll	If Yes, the Stay key may be pressed during the exit delay time to scroll (step) through the selected levels of Stay arming. I.E. Stay Instant, Stay Night, etc. The options below select the levels that will be available. The default value is Yes.
A1 11:=No ▸ StayInstantScr	If Yes, AND option 10 is set to Yes, multiple presses of the Stay key during exit delay will be able to scroll to the Stay Instant arming level. The default value is No.
A1 12:=Yes ▸ Night Scroll	If Yes, AND option 10 is set to Yes, multiple presses of the Stay key during exit delay will be able to scroll to the Stay Night arming level. The default value is Yes.
A1 13:=No ▸ NightInstantScr	If Yes, AND option 10 is set to Yes, multiple presses of the Stay key during exit delay will be able to scroll to the Stay Night Instant arming level. The default value is No.
A1 14:=No ▸ StayChgIfArmed	†† This option should be used with caution. If Yes, the Stay key may be used to scroll or step the armed level after exit delay has expired and the control is fully armed. The default value is No.
A1 15:AreaName◂ Area 1	To program the text description of the Area Name (max. of 16 characters) press the left arrow key. Enter text using the number keys. I.E. For a "K" press the 5 key twice. To move the cursor press the right or left arrow keys. While programming the text, pressing the Chime key inserts a space, and the Bypass key erases 1 digit. The up and down arrow keys toggle between upper and lower case. Press the ELK key when complete.

VACATION MODE: During the exit delay time the Away key may be pressed to convert from Away mode to Away Vacation mode. The Away Vacation mode does not alter any of the security arming times or zones. Its primary purpose is for use with the Whenever/And/Then Rules programming of Elk-RP for enhanced energy savings modes.

†† **AUTO ARMING**: The control has an Auto Arming feature which may be setup using the "Whenever/And/Then Rules" in the ELK-RP PC Programming Software. Basically, a rule must be written to initiate the auto arm sequence at a specific time and/or date occurrence along with a programmable pre-warning time period. At the end of the pre-warn time, the system will automatically arm to the AWAY mode, bypassing any violated Burglar zones. All area keypad(s) will beep and display a warning when the initiating time occurs. Pressing the * key clears this warning for 1 minute. The auto arm time may be extended in 10 minute increments by pressing the RIGHT arrow key. No further warnings will occur until 10 minutes prior to the newly "extended" auto arm time. *Example* 1: If a scheduled AutoArm is set for 06:00pm with a pre-warn time of 20 minutes, the warning will start at 6:00pm and the auto arm will occur at 6:20pm. Pressing the RIGHT arrow key to extend the time will cause the new auto arm time to be 6:30pm.

†† Not for use in UL Listed Systems

Menu 04 - Keypad Definitions

04-Keypad Definitions ▸

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

Keypad Definitions	Description of Option
KP01: Sel◆ Prg▸ Keypad 1	Up to 16 Keypads may be connected. Keypad 1 is the first to display. Press the right arrow key to program, or press the up or down arrow keys to select another keypad. To jump to any keypad enter the number (1-16). The keypad name displays on the bottom.
KP01 01:=1 ▸ Area Assigned To	A keypad can only be assigned as primary for a single area. However, it is possible to "Map" a keypad to another area. Refer to Keypad Menus for instructions. Select which "primary" area (1 to 8) that the keypad should be assigned. The default value is 1.
KP01 02:=No ▸ Silent on Entry	If Yes, the keypad will not produce an entry warning signal during entry delay time after violation of a delay 1 or delay 2 zone while armed. The default value is No.
KP01 03:=No ▸ Silent on Exit	If Yes, the keypad will not produce an exit warning tone during exit delay 1 or exit delay 2 times upon arming. The default value is No.
KP01 04:=No ▸ Silent on Chime	If Yes, the keypad will not produce any Chime tone even though the Chime mode may be on and a chime type zone is violated. This is good for a baby's room, etc. The default value is No.
KP01 05:=No ▸ Go dark in 60sec	If Yes, the keypad will turn off all backlighting, including Armed or Ready lights, 60 secs. after arming OR no pushbutton activity. This helps prevent unauthorized viewing of arm/disarm status through a front glass window or door. Any button press resumes the status display. The default value is No. **NOTE: If any of the F Keys are being used as event indicators this will also darken them, basically making them non-usable.**
KP01 06:=Yes ▸ Show Date & Time	If Yes, the keypad will display the date and time on the bottom line of the LCD screen. Not Available With M1KPAS! If there is too much information to display at once, the bottom line of the LCD will alternate. The default value is Yes.
KP01 07:=Yes ▸ Show Temperature	If Yes, the keypad will display it's local temperature on the bottom line of the LCD screen. Not Available With M1KP2 or M1KPAS! If there is too much information to display at once, the bottom line of the LCD will alternate. The default value is Yes.
KP01 08:=Yes ▸ Show Area Name	If Yes, the keypad will display the name of the area in which it belongs. If there is too much information to display at once, the bottom line of the LCD will alternate. Not Available With M1KPAS! The default value is Yes.
KP01 09:=No ▸ Byp Key Req PIN	If Yes, the Bypass key cannot be used unless a valid user code is entered. Not Available With M1KPAS! The default value is No.

Keypad F1, F2, F3, F4, F5, F6 keys Each keypad has 6 lighted function keys that may be programmed to activate specific operations. There are 7 programming attributes for each key: 1) KeyEvent - A four digit event code for the zone definitions 0001 thru 0035, or the automation tasks 2001 - 2032. 2) KeyLight - A four digit event code which lights the key when the event is active. This can be any of the Appendix A Event Codes. 3) Light Invert - A Yes/No option which allows the light to be opposite of the event, off when active, on when not. 4) Light Blink - A Yes/No option which allows the light to blink when active. 5) Key Requires PIN - A Yes/No option used to prevent the key from activating unless a valid user code is entered. 6) Single Key Press - A Yes/No option which allows a single press of the key instead of the normal double press to activate the event. NOTE: In the double press mode the key's name is displayed on the LCD screen as soon as the first press occurs. This serves to visually verify to the user that the correct key has been selected prior to the second "activating" key press. 7) Key Name - A sixteen character programmable description that describes the key's function. I.E. Police Alarm, Garage Door, etc.

Menu 04 - Keypad Definitions (continued)

Keypad Definitions	Description of Option
KP01 10:F1 Key Definitions ▸	To program the F1 key definitions press the right arrow key. The program will branch off into the 7 options for this key. To select another option press the UP or DOWN arrow keys. To jump to a specific option enter the two digit number for that option.
F1KeyEvent=0010 ▸ **Evt=Fire Alarm**	Key Event refers to what the key activates. F Keys can used to activate an Alarm, an Automation Task, or by Elk-RP Whenever/And/Then Rules to activate most anything. Press the RIGHT arrow key and enter 4 digits. Enter 0000 if Elk-RP is going to be used exclusively. Enter 0001-0036 for an alarm activation (see zone Defs), or 2001-2032 for an automation task activation (see Elk-RP software). The event description is displayed along the bottom. Press the RIGHT arrow key to move to the next option.
F1KeyLight=1001 ▸ **Evt=Fire Alarm**	Key Light selects the event which will cause the key to light up. See Event Codes in Appendix A. Press the RIGHT arrow key and enter 4 digits. The bottom line displays the description of the event. Press the RIGHT arrow key to move to the next option.
F1 Key:=No ▸ **Light Invert**	Light Invert selects whether the key should be lighted when the event is On (normal) or when the event is Off (Inverted). Press the RIGHT arrow key and select 1 for Yes or 0 for No. Press the RIGHT arrow key to move to the next option.
F1 Key:=No ▸ **Light Blink**	Light Blink selects whether the key should blink when lighted or be steady. Press the RIGHT arrow key and select 1 for Yes or 0 for No. Press the RIGHT arrow key to move to the next option.
F1 Key:=No ▸ **Key Requires PIN**	Key Requires PIN selects whether the F key requires a valid user code prior to activation. Press the RIGHT arrow and select 1 for Yes or 0 for No. Press the RIGHT arrow key to move to the next option.
F1 Key:=No ▸ **SingleKeyPress**	If this option is Yes, a single press of the F key will activate the event. If No, then two presses OR single press and hold 2 seconds is required. Press the RIGHT arrow and select 1 for Yes or 0 for No. Press the RIGHT arrow key to move to the next option.
F1 Key Name ◂▸ **F1 = Fire**	The Key Name will be displayed whenever the F key is pressed. Press the LEFT arrow key and enter text using the number keys. I.E. For "K" press the 5 key twice. Move the cursor using the right or left arrow keys. The up or down arrow keys select between lower and upper case. Press the ELK key when complete.
KP01 11:F2 Key Definitions ▸	If the F2 Key is to be used, repeat the steps above.
KP01 12:F3 Key Definitions ▸	If the F3 Key is to be used, repeat the steps above.
KP01 13:F4 Key Definitions ▸	If the F4 Key is to be used, repeat the steps above.
KP01 14:F5 Key Definitions ▸	If the F5 Key is to be used, repeat the steps above. NOTE: M1KP2 does not have an F5
KP01 15:F6 Key Definitions ▸	If the F6 Key is to be used, repeat the steps above. NOTE: M1KP2 does not have an F6
KP01 16:KP Name ◂ **Keypad 1**	To edit the Keypad Name press the LEFT arrow key. Enter text using the number keys. I.E. For "K" press the 5 key twice. Use the RIGHT or LEFT arrow keys to move the cursor. The UP or DOWN keys select between lower and upper case. The Chime key inserts a space, and the Bypass key erases 1 digit. Press the ELK key when complete.

Menu 05 - Zone Definitions

05-Zone Definitions ▸

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

Zone Definitions

ZN001: Sel◆ Prg▸
Zone 001

Description of Option

There are up to 208 zones. Press the UP or DOWN arrow key to scroll and select a particular zone. To jump to any zone, enter the number from 001 to 208. The zone name will display along the bottom line. Press the right arrow to program the selected zone.

ZN001 01:Def=01 ▸
Burg Entry/Exit1

This first option is used to set the zone definition. To locate a different option press the up or down arrow key OR enter an option's number to jump directly to it. Press the right arrow key to program the selected option. The available definitions are:

Def Zone Description — Operating Characteristics

00 **Disabled** - Used to remove any unused zone(s). No need to put a jumper or resistor across the terminals.

01 **Burglar Entry/Exit 1** - For perimeter entry/exit doors. Allows a time delay to enter and exit during arm and disarm.

02 **Burglar Entry/Exit 2** - For perimeter entry/exit doors that require more time delay during arm and disarm.

03 **Burglar Perimeter Instant** - Windows and perimeter openings. Activates an immediate Burglary alarm if tripped during ANY armed mode. Does not provide any exit or entry delay.

04 **Burglar Interior** - For motion detectors, interior doors, etc. Creates an instant alarm if tripped during the AWAY arm mode. This zone type IS NOT ACTIVE during the STAY, STAY INSTANT, NITE, and NITE INSTANT arm modes.

05 **Burglar Interior Follower** - For motions detectors, interior doors, etc. which may be in the keypad or entry pathway. If an entry delay zone is violated first, this zone will delay (Follow) also, otherwise it will create an instant alarm. This zone type IS NOT ACTIVE during the STAY, STAY INSTANT, NITE, and NITE INSTANT arm modes.

06 **Burglar Interior Nite** - For motion detectors, interior doors, etc. which are not close to sleeping areas. The primary use of this zone type is for increased security when the user is home. Interior Nite zones ARE ACTIVE during the NITE and NITE INSTANT arm modes as well as the AWAY arm mode and will create an instant alarm if tripped. This zone type is NOT ACTIVE during the STAY or STAY INSTANT arm modes.

07 **Burglar Interior Nite Delay** - For motion detectors, interior doors, etc. that are not close to sleeping areas. Same as an Interior Nite zone except that Interior Nite Delay zones will delay for the entry/exit delay 1 time period. Interior Nite zones ARE ACTIVE during the NITE and NITE INSTANT arm modes providing increased security when the user is home and in bed. However, if the user accidentally wanders into a Nite Delay zone the entry delay timer will start and the tone will sound, warning the user to disarm before a false alarm occurs.

NOTE: If "Auto Stay,No Exit" is set to YES (see Area Definitions) and the system is armed in the Away mode, all interior zones will be bypassed if no exit is detected from the premises during the exit delay time.

	Away	Stay	Stay Instant	Nite	Nite Instant
Burg Entry/Exit (1 or 2) Zone	A	A	AN	A	AN
Burg Perimeter (Instant) Zone	AN	AN	AN	AN	AN
Burglar Burg Interior Zone	AN	-	-	-	-
Burg Interior Follower Zone	A	-	-	-	-
Burg Interior Nite Zone	AN	-	-	AN	AN
Burg Interior Nite Delay Zone	A	-	-	A	AN

QUICK VIEW OF ARMING MODES
This illustrates the condition of Burg zone types in the various arm modes.
Legend: A = Armed
"-" = Not Armed,
AN = Armed, No Delay

08 **Burglar 24 hr** - Intended for tamper switches, etc. Activates an immediate Burglary alarm if tripped anytime (during armed or disarmed state).

09 **Burglar 24 hr Box Tamper** - Intended for control, siren, and bell box tamper switches. Activates an immediate Burglary Tamper alarm if tripped anytime (armed or disarmed state).

10 **Fire 24 hr Alarm** - Intended for Fire alarm sensors such as smoke detectors, heat stats, pull stations, etc. Activates an immediate Fire alarm upon a short across the zone wires. A Fire Trouble will be activated if an open (break in the zone wires) should occur.

11 **Fire 24 hr 'Verified'** - For smoke detectors in high-risk false alarm areas. Upon initial activation (short across the zone), the control ignores the alarm and removes smoke power for 5 seconds to reset the detectors. During this 5 seconds, and for 20 additional seconds afterwards, no alarms will be recognized from this zone. Following this is a 60 second verification time window, during which any additional activation will be regarded as verification of the initial alarm and the control will initiate a Fire Alarm. If the 60 seconds expires with no further activations, the entire process is cleared (reset). A Fire Trouble will be activated if an open (break in the zone wires) occurs.

12 **Fire 24 hr Supervisory** - Intended for monitoring water control valves on fire sprinkler systems. Same as Fire 24hr except that a short across the zone activates a Fire Supervisory alarm. A Fire Trouble will be activated if an open (break in the zone wires) should occur.

13 **Auxiliary1 24 hr** - This zone can trip anytime (armed or disarmed) and send a communicator report, but there is no audible alarm output or keypad indication provided. It is displayed in the event log. A Whenever/And/Then rule can be written from the RP software to do other things with this zone type. Resets upon restoral.

14 **Auxiliary2 24 hr** - This zone can trip anytime (armed or disarmed) and send a communicator report, but there is no audible alarm output or keypad indication provided. It is displayed in the event log. A Whenever/And/Then rule can be written from the RP software to do other things with this zone type. Resets upon restoral.

Menu 05 - Zone Definitions (continued)

Def	Zone Description	Operating Characteristics
15	† **Keyfob**	Used when a wireless keyfob is enrolled into a receiver at this zone ID location.
16	**Non Alarm -**	Intended for use in Whenever/And/Then rules from the Remote Programming RP software. This zone type DOES NOT ACTIVATE any alarm and is not logged in the Event log. No reset is required.
17	†† **Carbon Monoxide 24 hr**	Activates an immediate Carbon Monoxide alarm if tripped anytime (armed or disarmed). The keypad will display the alarm as well as the event log. This type of alarm can be silenced/reset with a valid User Code. The audible alarm can be set in "Cutoff Timers".
18	**Emergency 24 hr**	Similar to Def 17, this zone creates an alarm if tripped anytime (armed or disarmed).
19	†† **Freeze Alarm 24 hr**	Similar to Def 17, this zone creates an alarm if tripped anytime (armed or disarmed).
20	†† **Gas Alarm 24 hr**	Similar to Def 17, this zone creates an alarm if tripped anytime (armed or disarmed).
21	†† **Heat Alarm 24 hr**	Similar to Def 17, this zone creates an alarm if tripped anytime (armed or disarmed).
22	**Medical Alarm 24 hr**	Activates an immediate Medical alarm if tripped anytime (armed or disarmed).
23	**Police Alarm w/Indication 24 hr**	Activates an audible Police (Holdup) alarm if tripped (armed or disarmed).
24	**Police Alarm no Indication 24 hr**	Activates an non-audible Police (Silent) alarm if tripped (armed or disarmed).
25	†† **Water Alarm 24 hr**	Activates an immediate Water alarm if tripped anytime (armed or disarmed).
26	**Keyswitch Momentary**	Intended for a spring loaded momentary key switch. Toggles the armed state (disarmed/armed) with each trip.
27	**Keyswitch Momentary - Away Mode**	Intended for a spring loaded momentary key switch. Arms the area in the AWAY mode with each trip.
28	**Keyswitch Momentary - Stay Mode**	Intended for a spring loaded momentary key switch. Arms the area in the STAY mode with each trip.
29	**Keyswitch Momentary - Disarm Only**	For a spring loaded momentary key switch. Disarms with each trip.
30	**Keyswitch On/Off (Maintained)**	Intended for a 2 position On/Off key switch. Arms the area in Open position. Disarms the area in the Closed position.
31	†† **Mute All Area Audibles**	For silencing all area audibles by a two-way listen-in module (other manufacturer).
32	**Power Supervisory 24 hr**	For supervising an external power supply which provides alarm/trouble contacts. Wire the power supply contacts to open the zone in a Low Battery event and short the zone in an AC Failure event.
33	† **Temperature**	For use with ELK-M1ZTS Temperature Sensors. Requires the use of Whenever/And/Then rules from the ELK-RP software. **NOTE: This definition is for ZONES 1 thru 16 ONLY! Temperature zones must be set to FAST LOOP (less that 200ms) response.**
34	† **Analog**	For sensors that produce a variable voltage (0 to 12 volt range). Requires the Whenever/And/Then rules from the ELK-RP software. **NOTE: This definition is only available with the ELK-M1G (Gold) control.**

ZN001 02:Type=0▸
0=EOL Supervised

Refers to the wiring configuration for zones. Burglar and Keyswitch zones may be set to: 0, 1, 2, 3, & 4. Other non-fire zones may be set to: 0, 1 or 2 only. Fire zones may be 5=EOL Supervised 4-wire detectors, 6=EOL Supervised 2-wire detectors (zone 16 ONLY!)

Type	Wiring Configuration	Operating Description
0	**EOL Supervised**, 2,200 Ohm resistor	(Zones 1 - 16 are defaulted to Type=0)
1	**Normally Closed only**.	No resistor required.
2	**Normally Open only**.	No resistor required.
3	**EOL Supervised with SECURITY ALERT on Short. (Burglar & Keyswitch Zones Only)**	When control is disarmed a Security "Day" Alert will occur if the zone wiring is SHORTED. Keypads will beep and display the alert and zone name. Press Star key to silence. User code must be entered to reset/acknowledge the alert. When control is armed an alarm will occur regardless of whether the zone wiring is OPENED or SHORTED.
4	**EOL Supervised - 4 State Wiring, with SECURITY ALERT on Open or Short. (Burglar & Keyswitch Zones Only)**	Effective with firmware 4.3.5 this type provides **4 State Zone Wiring option,** which uses 2 series EOL resistors, 1 in series with the loop and 1 in parallel with the alarm contacts. When control is disarmed a Security "Day" Alert will occur if the zone wiring is OPENED (tamper switch) or SHORTED. Keypad(s) will beep and display the alert and zone name. Ideal for tampering motions, etc. Press Star key to silence. User code must be entered to reset/acknowledge the alert. When control is armed an alarm will occur regardless of whether the zone is OPENED or SHORTED. NOTE: To define additional output/options on types 3 & 4 use the ElkRP Whenever/Then rules.
5	**Fire, 4-Wire Smoke Detector**	with 2,200 Ohm EOL resistor. Trouble on open, alarm on short. (Zones 1 to 16).
6	**Fire, 2-wire Smoke Detector**	with 820 Ohm EOL resistor. (ZONE 16 ONLY)

† Wireless transmitter zones set as Type 0 will provide both tamper and alarm notification while armed. Setting as a Type 3 or 4 adds tamper activation duriing the disarmed state as well. Setting as Type 1 disables tamper from that wireless zone/sensor.

ZN001 03:Area=1 ▸
[Area Name]

Enter the area (partition) number that this zone is to be assigned to. A zone can only reside in one area and fire zones can only reside in Area 1.

† Not evaluated by UL

†† Not for use in UL Listed Systems

Menu 05 - Zone Definitions (continued)

Zone Definitions	Description of Option
ZN001 04: =No ▸ Silent Alarm	A zone programmed 'Yes' for Silent Alarm will not cause any audible alarm event from a programmable output OR from any keypad. However, a visual display will occur on the keypad(s) which are assigned to the same area as the zone.
ZN001 05: =Yes ▸ Dialer Delay	Helps reduce false alarm dispatches. Upon an alarm this zone the communicator will delay dialing for the "Dialer Delay" time in Menu 09-Area Reporting Codes. If a valid code is entered before the delay expires, report will ABORT. The communicator will transmit an Alarm Abort code if programmed in Menu 09. NOTE: Dialer Delay Time will only start once per alarm, regardless of additional zone trips. Default No.
ZN001 06: =No ▸ Enable Listen-In	† Allows zone to trigger a listen-in session after alarm is reported. Control will hold the line for 60 seconds after 'kiss-off', allowing Central Station to enter *55* to activate listen-in. The Central Station can renew or terminate listen-in remotely. NOTE: Two-Way must be enabled (Menu 07-Globals) and an interface (ELK-M1TWI) with one or more microphone/speakers (ELK-M1TWS) must be installed. Default setting is No.
ZN001 07: =No ▸ Zone Bypassable	A Yes allows zone to be manually bypassed. A bypassed zone will be ignored by the system. Burglar zone bypasses are cancelled upon a disarm. To bypass a zone: Press the Bypass key + [zone number] + the Bypass key once again. Default setting is Yes.
ZN001 08: =No ▸ Force Armable	†† Force Arm allows a violated zone to be temporarily bypassed upon arming. Prior to arm, the READY light blinks if force arm zone(s) are the only zones violated. The keypad will display READY FORCE. Force arm zone(s) automatically return to service if they become normal while armed. **CAUTION! Force arm operates uniquely on entry/exit zones! -** Entry/Exit zones that are also force armable can be violated <u>during</u> the exit delay and still become force armed, allowing a user to arm, open a garage door, back out, and close the door at their leisure, without creating a false alarm and without a long exit delay time. As soon as the garage door is closed, it will return to service. Default setting is No.
ZN001 09: =No ▸ SwingerShutdown	†† Prevents a runaway communicator by shunting zone after 2 trips. Zone cannot send another alarm until control is reset OR a 48 hour time period elapses. Default No.
ZN001 10: =No ▸ Req PeriodicTrip	This type zone must be tripped at least once per disarm cycle*. This prevents blocked PIRs or seldom used doors from being left not secure. Keypad will display "Not Ready" if a periodic zone has not been tripped. * NOTE: A periodic trip will not be required for a disarm period of 1 hour or less. Default setting is No.
ZN001 11: =No ▸ FastLoopResponse	Response is the time the zone must be violated before the system detects it. If No, the zone responds to the Slow response time. The time values are in milliseconds and they are programmed in the Menu 07 Global Sys. Definitions menu. Default setting is No. **NOTE: Slow loop response shall NOT be used on Fire zones.**
ZN001 12: =No ▸ Enable Chime	Each zone may be selected to be included in the Chime annunciation whenever Chime Mode is turned on from the keypad. Most zone types may be included via this option. Default setting is No.
ZN001 13: =No ▸ In CrossZonePool	†† Burglar zones "In CrossZonePool" can't cause alarms unless another zone in the pool also activates within a time window OR unless "Cross Zone Self Ver" [Menu 07 - Global System Definitions] is enabled. **<u>DO NOT program Entry/exit zones as Cross zones.</u>** Default is No. **NOTE: The Cross Zone feature shall NOT be used on Fire zones.**
ZN001 14:Name◂ Zone 001	To program the text description of the Zone Name (max. of 16 characters) press the left arrow key. Enter text using the number keys. I.E. For a "K" press the 5 key twice. To move the cursor press the right or left arrow keys. While programming the text, pressing the Chime key inserts a space and the Bypass key erases 1 digit. The up and down arrow keys move between upper and lower case. Press the ELK key when complete.

† Not evaluated by UL

†† Not for use in UL Listed Systems

Menu 06 - Alarm Duration Timers

06-Alarm Cutoff Timers ▸

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

Each alarm type has a cutoff timer. Any output(s) activated by the alarm type will turn off when the cutoff timer expires. If multiple alarm types are assigned to a single output, all alarms must turn off before the output can turn off. Range is 00000 to 65535 seconds. 00000=Never turn on. 65535=Never turn off NOTE: 65535 sec = 1,092 minutes or 18.2 hrs.

Alarm Cutoff Timers	Description of Option
CT01:=00600 sec▸ BurgDuration	††† Burglar Alarm duration time in seconds. Default time is 00600 sec. (10 min.). Burglar always activates Siren/Voice Output (Out1) and Siren Output (Out2). Additional outputs may be programmed using the RP software "Rules" function.
CT02:=00000 sec▸ FireDuration	Fire Alarm duration time in seconds. Default time is 65535 sec. (never cutoff). Fire always activates Siren/Voice Output (Out1) and Siren Output (Out2). Additional outputs may be programmed using the RP software "Rules" function.
CT03:=00600 sec▸ Med Duration	Medical Alarm duration time in seconds. Default is 00600 sec. (10 min.). Medical always activates Siren/Voice Output (Out1) and Siren Output (Out2). Additional outputs may be programmed using the RP software "Rules" function.
CT04:=00600 sec▸ Pol Duration	Audible Police Alarm duration time in seconds. Default time is 00600 sec. (10 min). Audible Police always activates Siren/Voice Output (Out1) and Siren Output (Out2). Additional outputs may be programmed using the RP software "Rules" function.
CT05:=00600 sec▸ CO Duration	CO (Carbon Monoxide) Alarm duration time in seconds. The default time is 00600 sec. (10 min.). This alarm type is not preassigned to any outputs. The RP software "Rules" function must be used to assign outputs.
CT06:=00600 sec▸ EmerDuration	Emergency Alarm duration time in seconds. The default time is 00600 sec. (10 min.). This alarm type is not preassigned to any outputs. The RP software "Rules" function must be used to assign outputs.
CT07:=00600 sec▸ FrezDuration	Freeze Alarm duration time in seconds. The default time is 00600 sec. (10 min.). This alarm type is not preassigned to any outputs. The RP software "Rules" function must be used to assign outputs.
CT08:=00600 sec▸ Gas Duration	Gas Alarm duration time in seconds. The default time is 00600 sec. (10 min.). This alarm type is not preassigned to any outputs. The RP software "Rules" function must be used to assign outputs.
CT09:=00600 sec▸ HeatDuration	Heat Alarm duration time in seconds. The default time is 00600 sec. (10 min.). This alarm type is not preassigned to any outputs. The RP software "Rules" function must be used to assign outputs.
CT10:=00600 sec▸ WatrDuration	Water Alarm duration time in seconds. The default time is 00600 sec. (10 min.). This alarm type is not preassigned to any outputs. The RP software "Rules" function must be used to assign outputs.
CT11:=00600 sec▸ Aux1Duration	Aux 1 Alarm duration time in seconds. The default time is 00600 sec. (10 min.). This alarm type is not preassigned to any outputs. The RP software "Rules" function must be used to assign outputs.
CT12:=00600 sec▸ Aux2Duration	Aux 2 Alarm duration time in seconds. The default time is 00600 sec. (10 min.). This alarm type is not preassigned to any outputs. The RP software "Rules" function must be used to assign outputs.

††† See Appendix F for UL & ULC Requirements

Menu 07 - Global System Definitions

07-Global System ▸ Definitions

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

Global Sys Definitions	Description of Option
G01:=0 TelRmtCtl In&OutsidTeleCtl	Telephone Remote Control allows any phone to become a basic keypad. This feature can be set for interior use only (1), interior & exterior use (2), or disabled (0). The M1VB Voice Module (standard on most units) is required for this feature. Default is (0) disabled.
G02: =Yes ▸ 12Hr Time Disp	Keypads that are programmed to show time and date on their second display line will either display 12 hour format or 24 hour military format, depending upon this option. Default is Yes
G03: =No ▸ DD/MM Date Disp	If this option is No, the date will display as Month/Day/Year. If this option is Yes, the date will display as Day/Month/Year. Default No.
04: =No ▸ Celcius TempDisp	Keypads that are programmed to show temperature on their second display line will either display as Celsius or Fahrenheit, depending upon this option. Default is No.
G05: =Yes ▸ Daylight Savings	The system will automatically adjust its internal clock for daylight savings time changes if this option is set to 'Yes'. Default is Yes.
G06: =0040 ms ▸ Fast Loop Resp	Sets the time that a "Fast Loop" zone must remain open before the control responds. To set, press the RIGHT arrow key and enter a number from 002 to 255. Time is adjusted in 10 millisecond increments from 20ms to 2550ms (2.55 seconds). Default is 40ms.
G07: =0400 ms ▸ Slow Loop Resp	Sets the time that a "Slow Loop" zone must remain open before the control responds. A "Slow Loop" zone is basically any zone that does not have the "FastLoopResponse" option enabled in Menu 05 - Zone Definitions. To set, press the RIGHT arrow key and enter a number from 002 to 255. Time is adjusted in 10 millisecond increments from 20ms to 2550ms (2.55 seconds). Default is 400ms.
G08: =No ▸ CrossZoneSelfVer	Zones programmed with the 'Cross Zone' option may be allowed to self-verify an alarm condition. I.E. A second trip of the same zone within the Cross Zone Verify Time window will be considered a verified alarm. Default is No. **NOTE: The Cross Zone feature shall NOT be used on Fire zones.**
G09: =030 ▸ CrossZoneVerTime	This timer function is the amount of time in seconds that is allowed for two or more 'Cross Zone" zones to verify each other in an alarm condition OR for a second trip of the same zone when 'CrossZoneSelfVer' has been enabled. Default is No. **NOTE: The Cross Zone feature shall NOT be used on Fire zones.**
G10: =Yes ▸ Audible Troubles	This option selects whether ordinary non-fire system troubles will cause audible alerts to sound. This option does not affect fire trouble conditions, which will always be audible. Default is No.
G11: =No ▸ 6 Digit UserCode	The control supports up to 99 User codes, plus the Installer code. The User codes can be either 4 digits in length or 6 digits, depending upon this option. Default is No (4 digits). **NOTE: The Installer code is ALWAYS 6 digits.**
G12:=99 Digits ▸ WrongCodeLockout	To prevent a would be thief or hacker from being able to hunt for a valid user code, the system can automatically lock out all code entry for 1 minute after a sequence of invalid digits. The range of value can be set from 13 to 99. Default is 99.

Global Sys Definitions	Description of Option
G13:_ _ _ _ _ _ _ _ Common To Area1	Any of the Areas 2 thru 8 may be made common to Area 1. The result is: Area 1 cannot be armed until all its common areas are armed. Once armed, Area 1 will disarm if any common area becomes disarmed. This is good for lobbies or vestibules shared by two or more persons. Each area must have its own keypad. **NOTE: If you want Area 1 to automatically arm when all its common areas become armed, use a Whenever/ And/Then rule from the RP software to do this.**
G14: =No Out1&2 Chg YelpToBuzzer	Changes the Burglar Yelp sound on outputs 1 & 2 to a pulsing Buzzer sound. **NOTE: Out1 is designed for 8 Ohm - 20 watt min. speakers (up to 4 max) and has adjustable volume settings.** Default is No.
G15:=1 Out1Start Alarm Volum-Tst	Options G15 thru G18 set the start and final volume levels for alarms and non alarms. G15 sets the initial siren/bell volume of Output 1 upon initial alarm activation. The range of settings is selectable from 0 to 7 (0 = lowest, 7 = loudest).
G16:=7 Out1 Max Siren Volum-Tst	Sets the maximum siren/bell volume of Output 1. The sound starts at the initial setting and increases (volume step) every 10 seconds until the max. is reached. Volume stepping reduces noise and confusion with user caused false alarms. Default is 7.
G17: =5 Out1 Max VoiceAlmVol-Tst	Sets the maximum volume of Output 1 for Voice alarm messages. Just as in G16, with a low initial setting, the voice alarm message starts low and automatically increases (volume stepping) over a period of time until the max. is reached. Default is 5.
G18: =2 Out1 Non AlmVoiceVol-Tst	Sets the maximum volume of Output 1 for Voice non-alarm messages. Non-alarm messages consist of system status, zone status, and various operating helpful hints that are produced for the user during non-alarm conditions. Default is 2.
G19:=No Out1 SuppressAllVoice	Selects whether or not voice messages are to be spoken through Output 1. Selecting 'Yes" completely eliminates all spoken voice messages from Output 1. Selecting "No" allows voices to be spoken based upon the settings of G20 through G25. Default is No.
G20:=Yes Out1 SaySystmMessages	Selects whether System "non-alarm" messages will be spoken through Output 1. System messages include: "System is Armed", "System is Disarmed", etc. Default is Yes.
G21:=Yes Out1 Say Alarms	Selects whether Alarm messages will be spoken through Output 1.
G22:=Yes Out1 Say Zone Status	Selects whether Zone status messages will be spoken through Output 1.
G23:=Yes Out1 SaySystemTrouble	Selects whether System Trouble messages will be spoken through Output 1.
G24:=Yes Out1 Say Zone Trouble	Selects whether Zone Trouble messages will be spoken through Output 1.
G25:=Yes Out1 Say Chime	Selects whether Chime Event messages will be spoken through Output 1.

Menu 07 - Global System Definitions (continued)

Global Sys Definitions	Description of Option
G26: =No ▸ Out2 Voltage Out	Allows Output 2 to be converted from a siren driver into a voltage only output. If set to "No" the control produces alarm sounds for use with 8 Ohm speakers. If set to "Yes" the control will produce +12 Volts for use with self-contained sirens or bells. Default is No.
G27:=000secOut2▸ Delay Turn-On	Ordinarily, Outputs 1 & 2 activate immediately on alarms. However, Output 2 can be time delayed up to 255 seconds. Using Output 1 strictly for interior sounders and Output 2 for outside sounders, a false alarm will be heard inside first, giving the user time to disarm before any outside sounders are activated. A "good neighbor" feature. Default is 000.
G28:=No Out2 ▸ SingleAlmLockout	† Output 2 can be set to alarm only once per armed cycle for burglary type alarms. This feature is intended for noise abatement. The dialer will continue to transmit all alarms that may occur. THIS ONLY LOCKS OUT AUDIBLE FROM OUTPUT 2.
G29:=00 Rings ▸ Until AutoAnswer	The control must be set to auto answer an incoming call in order for Telephone Remote Control or the Remote Programming (RP) to be accessed remotely. The range of rings can be set from 1 to 15. A value of "0" disables auto answer.
G30:=No ▸ Ring/Hang/Answer	A Yes enables faster connection from an outside telephone. It works as follows: Call the control and hang up after 1 or 2 rings. This starts a 45 second timer. Call the control a 2nd time *during this 45 second time and* the control will answer on the first ring. In some cases this Ring/Hang/Answer option may be the only way to get around telephone company provided answering services. **Option 29 MUST also be set!** **NOTE: If an on-site answering machine picks up, the RP software and the control will automatically attempt to override the machine using tone sniffing methods.**
G31:=No 2Way▸ Listen-In Enable	† If this option to Yes ONLY when an ELK-M1TWI Two Way Listen-In interface is installed. This enables the correct software commands and procedures to make the two way functional. Refer also to the instructions that are shipped with the ELK-M1TWI
G32:=00sec 2Way▸ CallbackTime	If Two Way is enabled, this timer provides a window for the CS to enter * 55 * and activate two way listen-in by holding the phone line off-hook for 001 to 255 seconds after a kissoff. Upon hangup, this timer re-starts to provide a window for the CS to callback and initiate two way. Control will answer an incoming call on the first ring. Enter 000 to disable.
G33:=000sec CS▸ Verify Call Time	Allows the Central Station alarm verification by suspending (holding) new alarms after the initial alarm kissoff. The phone line is kept free for this time period. The time value can be from 001 to 255 seconds. Long time periods are not recommended. Enter 000 to disable.
G34:=9 115200▸ Baud Rate Port 0	This location is used to set the "revert back to" baud rate for the on-board RS-232 serial port which is Port 0. The available selections are: 0 or 1=300 baud, 2=1200, 3=2400, 4=4800, 5=9600, 6=14400, 7=19200, 8=38400, and 9=115200. Factory default: 115,200.
G35:=No Xmit▸ Event Log- ASCII	The control can transmit ASCII data via it's RS-232 port to automation types of equipment. The ELK ASCII Protocol document is available upon request. This first option sets the control to transmit all event log information immediately as it occurs.
G36:=No Xmit▸ Zone Chgs - ASCII	This option sets the control to transmit zone status changes immediately as they occur. The ELK ASCII Protocol document is available upon request.
G37:=No Xmit▸ OutputChgs-ASCII	This option sets the control to transmit output status changes immediately as they occur.

† Not evaluated by UL

†† Not for use in UL Listed Systems

Global Sys Def	Description of Option
G38:=No Xmit▸ Task Chgs - ASCII	† This option sets the control to transmit automation task status changes immediately as they occur.
G39:=No Xmit▸ Light Chgs-ASCII	† This option sets the control to transmit automation lighting status changes immediately as they occur.
G40:=No Xmit▸ Keypad Key Chgs	Sets the control to transmit keypad key changes. This includes the Chime, Bypass, Exit, Stay keys, the ELK key and it's surrounding arrow keys, and the F keys. It does not transmit any of the numeric keys..
G41:=No Require Code UserMenu1-5	Allows User Menus 1 through 5 to be blocked from view until a valid User code is entered. If set to "Yes", only User Codes which have the "Menu 1-5 Allowed" option enabled will be able to view or access Menus 1 through 5. Default is No.
G42:=172839 ▸ Local Prog Code	This is the 6 digit Installer program code that is required in order to access the local installer programming mode. **NOTE: Be careful when changing this code as it will be impossible to program the panel if the code is programmed wrong or forgotten.**
G43:=D1234567 ▸ Serial Number	This is a read-only location. Each control is assigned a unique serial number for identification of the unit regarding warranty, technical support, anti-takeover, and other issues that may arise.
G44:xxxxxxxxxxxx Axxxxxx Bxxxxxx	This is a read-only location displaying information about the current software and bootloader revision that the control is operating with. This will only be needed with the assistance of a factory technical support person.
G45:=DefaultCtl ▸ 81=User Codes	Allows factory default values to be restored by individual menus/categories. Press the right arrow, then press the up or down arrow keys to scroll through the choices. To factory default any single category enter the displayed number. E.G., enter 81 from this screen to default all User Codes. Be patient as it may take a minute or more to default some items.
82=Areas Data	Entering 82 from this screen causes all area definitions to be factory defaulted.
83=Keypads Data	Entering 83 from this screen causes all keypad definitions to be factory defaulted.
84=Zones Data	Entering 84 from this screen causes all zone definitions to be factory defaulted.
85=Zone Names	Entering 85 from this screen causes all zone names to be factory defaulted.
86=CutoffTimes	Entering 86 from this screen causes all the cutoff timers to be factory defaulted.
87=Global Data	Entering 87 from this screen causes all global system defs to be factory defaulted.
88=TeleAcct Data	Entering 88 from this screen causes all telephone reporting setup to be factory defaulted.
89=Tele #'s Only	Entering 89 from this screen causes all telephone numbers ONLY to be factory defaulted.
90=AreaRptCodes	Entering 90 from this screen causes all area report codes to be factory defaulted.
91=ZoneRptCodes	Entering 91 from this screen causes all zone report codes to be factory defaulted.
92=SysRptCodes	Entering 92 from this screen causes all system report codes to be factory defaulted.
93=UserRptCodes	Entering 93 from this screen causes all user report codes to be factory defaulted.
94=VoiceMessages	Entering 94 from this screen causes all voice messages to be factory defaulted.
95=WirelessDef	Entering 95 from this screen causes all wireless definitions to be factory defaulted.
99=Entire Panel	Entering 99 from this screen causes the entire panel programming to be factory defaulted.

† Not evaluated by UL

Menu 08 - Telephone Account Setup

08-Telephone ▸
Account Setup

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

Telephone Acct Setup	Description of Option
T1: Sel◆ Prg▸ **[Name for Tel#1]**	The control can dial up to 8 telephone numbers plus the ELK-RP number. Each of the 8 phone numbers can be used to report alarms, troubles, closings, opening, etc. in digital format as well as pager formats. Use the up/down arrow keys to select the telephone number, then press the right arrow key to program the options, starting with option 01.
T1: 01:Format=0 ▸ **0=Disabled**	This selects the reporting format to be used with this number. The available formats are: 00 = Disable reporting 03 = Pulse 4+2 06 = Ethernet 01 = Contact ID 04 = Pager DTMF tones 02 = SIA 05 = † Voice Message **Note: Voice Message Format can only be utilized from the Elk-RP Computer software in concert with a Whenever/And/Then rule.**
T1: 02: = 0 ▸ **0=Always Report**	0=Always Report, meaning the number will be dialed when its "report to" options are activated. 1=Backup, meaning the number will ONLY be dialed if the previous sequential number failed to complete its call. When backup is selected the "report to" options will be copied from the previous number and ONLY the name, number, format, and dial attempts may be edited. To edit any "report to" options you must temporarily set this value to 0. **NOTE: Telephone # 1 cannot be set as a backup since it is the first number. A backup cannot have another backup.**

T1: 03:Num=	Up to 20 digits may be entered for a telephone number. Valid numeric digits are: 1, 2, 3, 4, 5, 6, 7, 8, 9, and 0. In addition, the following special characters may be programmed. The cursor automatically moves right each time a digit is entered.
	Comma (,) = forces the dialer to pause for 2 seconds Slash (/) = forces the dialer to pause for 125 milliseconds.
	Asterick (*) = simulates the * key on a touch tone phone Pound (#) = simulates the # key on a touch tone phone
	B = Program the 1st dialed digit as a "B" to force Pulse (rotary) dialing. Elsewhere in dial string a "B" will be handled as a DTMF tone signal
	C = Not Used
	D = Program the 1st dialed digit as a "D" to force Dial tone detection prior to dialing. Otherwise, it dials regardless of dial tone presence. Anywhere else in the dial string a "D" will simply be handled as a DTMF tone signal. EXCEPTION: Digit D (Dial tone detect) can be the 2nd digit but ONLY if B (Pulse dial) is the 1st dialed digit.
	To enter special characters place the cursor where desired and press the up arrow key. The 1 key produces characters 1, #, *, and /. The 2 key produces 2, A, B, and C. The 3 key produces 3, and D. When finished press the down arrow key to return to numbers.

T1: 04: = 08 ▸ **Dial Attempts**	This sets the number of dial attempts (re-dials) that the communicator will make to this number before a Comm Fail (fail to report) is logged. Valid range is 01 to 15 attempts. Default is 08.
T1: 05:=000000▸ **Acct # for Area1**	The Account number for Area 1 (up to 6 digits) when it is reported to this telephone number. Since all 6 digits must be entered, enter leading zeros (0's) if a shorter account number is required.
T1: 06:=000000▸ **Acct # for Area2**	The Account number for Area 2 (up to 6 digits) when it is reported to this telephone number. Since all 6 digits must be entered, enter leading zeros (0's) if a shorter account number is required.
T1: 07:=000000▸ **Acct # for Area3**	The Account number for Area 3 (up to 6 digits) when it is reported to this telephone number. Since all 6 digits must be entered, enter leading zeros (0's) if a shorter account number is required.

† Not evaluated by UL

Telephone Acct Setup	Description of Option
T1: 08:=000000▸ Acct # for Area4	The Account number for Area 4 (up to 6 digits) when it is reported to this telephone number. Since all 6 digits must be entered, enter leading zeros (0's) if a shorter account number is required.
T1: 09:=000000▸ Acct # for Area5	The Account number for Area 5 (up to 6 digits) when it is reported to this telephone number. Since all 6 digits must be entered, enter leading zeros (0's) if a shorter account number is required.
T1: 10:=000000▸ Acct # for Area6	The Account number for Area 6 (up to 6 digits) when it is reported to this telephone number. Since all 6 digits must be entered, enter leading zeros (0's) if a shorter account number is required.
T1: 11:=000000▸ Acct # for Area7	The Account number for Area 7 (up to 6 digits) when it is reported to this telephone number. Since all 6 digits must be entered, enter leading zeros (0's) if a shorter account number is required
T1: 12:=000000▸ Acct # for Area8	The Account number for Area 8 (up to 6 digits) when it is reported to this telephone number. Since all 6 digits must be entered, enter leading zeros (0's) if a shorter account number is required.
	THE FOLLOWING 5 OPTIONS DEFINE WHAT IS REPORTED BY THIS TELEPHONE #
T1: 13:=Yes Rpt▸ AreaAlms,RestUnbp	This YES or NO option identifies whether this telephone number should report misc. options from the AREA REPORTING CODES menu, Zone Alarms, Restores, and Unbypasses from the ZONE REPORTING CODES menu, and Keypad Alarms from the KEYPAD F-KEY REPORTING CODES menu.
T1: 14:=No Rpt▸ Bypasses	This YES or NO option identifies whether this telephone number should report the Zone Bypasses from the ZONE REPORTING CODES menu.
T1: 15:=No Rpt▸ Zone Troubles	This YES or NO option identifies whether this telephone number should report the Zone Troubles from the ZONE REPORTING CODES menu.
T1: 16:=No Rpt▸ User ReportCodes	This YES or NO option identifies whether this telephone number should report the user opening and closing codes from the USER REPORTING CODES menu.
T1: 17:=Yes Rpt▸ Global SysEvents	This YES or NO option identifies whether this telephone number should report the global system event codes from SYS REPORT OPTIONS & CODES menu.
T1: 18:Name ◂ [Name for Tel#1]	To edit or program a text description name (max. of 16 characters) such as "ACME Central Station" for the Telephone number press left arrow key. Spell out the text using the number keys. I.E. For a "K" press the 5 key twice. To move the cursor press the right or left arrow keys. While programming the text, pressing the Chime key inserts a space, and the Bypass key erases 1 digit. The up and down arrow keys toggles between upper and lower case. Press the ELK key when complete.

Menu 09 - Area Reporting Codes

09-Area Reporting Codes ▸

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

NOTE: Enter a two digit value to enable a particular report code. To disable a report code enter 00. When SIA or Contact ID is the reporting format, the two digit value can simply be 01 since the control automatically produces the correct code according to the SIA or Contact ID protocol. For 4+2 pulse format, enter a value from 01 to FF. To enter the A thru F HEX characters press the RIGHT arrow key to position the cursor under the desired digit, then press the UP arrow (shift) key once. Each press of the 2 key will now produce the following: 2, A, B, C. Each press of the 3 key will now produce the following: 3, D, E, F. Press the RIGHT arrow key to cancel shift and move to the next character. See Appendix for a summary of the SIA and Contact ID codes.

Area Report Codes	Description of Option
AR1: Sel◆ Prg▸ ReportCodesArea1	Each of the eight (8) Areas has specific communicator reporting codes for events that only occur within that area. Using the up/down arrow keys, select the appropriate area, then press the right arrow key to begin starting with option 01.
AR1 01:000=Sec ▸ Dialer Delay Time	Dialer Delay Time is an amount of time following an alarm during which the report may be aborted if the area is disarmed by a valid user. An optional alarm abort code may be programmed to report. Range is 000 to 255 seconds. Default is 000 (delay disabled).
AR1 02:Code= 00▸ Alm Abort Code	Alarm Abort code is an optional code that may be reported when an alarm is aborted during the Comm Abort Time window. Range is 00 to FF. Default is 00 (no report).
AR1 03:000=Sec ▸ CancelWindowTime	Cancel Window Time is the time following an alarm during which a cancel code will be reported if the area is disarmed. Cancel is not the same as abort since the alarm has already reported. Range is 00 to FF. Default is 00 (no report).
AR1 04:Code= 00▸ Alm Cancel Code	Alarm Cancel code is the code that will be reported if the area in alarm is disarmed within the Cancel Window Time. Range is 00 to FF. Default is 00 (no report).
AR1 05:Code= 00▸ Close Automatic	Close Automatic code will be reported anytime the area is armed automatically by a Rule from the RP software programming. Refer to the ELK-RP Rules Programming instructions. Range is 00 to FF. Default is 00 (no report).
AR1 06:Code= 00▸ Close Early	Close Early code will be reported if the area is closed prior to a programmed Expected Arm time. Refer to the ELK-RP Rules Programming instructions. Range is 00 to FF. Default is 00 (no report).
AR1 07:Code= 00▸ Close Extended	Close Extended code will be reported if a programmed Expected Arm time is extended by a valid user. Refer to the ELK-RP Rules Programming instructions. Range is 00 to FF. Default is 00 (no report).
AR1 08:Code= 00▸ Fail To Close	Fail to Close code will be reported if the area is not armed by a programmed Expected Arm time. Refer to the ELK-RP Rules Programming instructions. Range is 00 to FF. Default is 00 (no report).
AR1 09:Code= 00▸ Late Close	Late to Close code will be reported if the area is armed after a programmed Expected Arm time. Refer to the ELK-RP Rules Programming instructions. Range is 00 to FF. Default is 00 (no report).
AR1 10:Code= 00▸ Keyswitch Close	Keyswitch Close code will be reported in place of a user code whenever the area is armed by a keyswitch. Refer to the ELK-RP Rules Programming instructions. Range is 00 to FF. Default is 00 (no report).

Area Report Codes	Description of Option
AR1 11:Code= 00▸ Duress Code	Duress code will be reported if the area is armed or disarmed by a valid user code that is programmed with the duress attribute. Range is 00 to FF. Default is 00 (no report).
AR1 12:Code= 00▸ Open After Alrm	Open After Alarm code will be reported whenever a valid user arrives and disarms the area following an alarm activation. Range is 00 to FF. Default is 00 (no report).
AR1 13:Code= 00▸ Open Early	Open Early code will be reported if the area is disarmed prior to a programmed Expected Disarm time. Refer to the ELK-RP Rules Programming instructions. Range is 00 to FF. Default is 00 (no report).
AR1 14:Code= 00▸ Fail To Open	Fail to Open code will be reported if the area is not disarmed by a programmed Expected Disarm time. Refer to the ELK-RP Rules Programming instructions. Range is 00 to FF. Default is 00 (no report).
AR1 15:Code= 00▸ Open Late	Open Late code will be reported if the area is disarmed after a programmed Expected Disarm time. Refer to the ELK-RP Rules Programming instructions. Range is 00 to FF. Default is 00 (no report).
AR1 16:Code= 00▸ Open Keyswitch	Open Keyswitch code will be reported in place of a user code whenever the area is disarmed by a Keyswitch zone. Range is 00 to FF. Default is 00 (no report).
AR1 17:Code= 00▸ User Lockout	User Lockout code will be reported if someone repeatedly enters digits (see Menu 07 - Global System Definitions, Option 12 for the maximum number of digits allowed) in an attempt to hack out a valid user code. Range is 00 to FF. Default is 00 (no report).
AR1 18:Code= 00▸ Exit Error	Exit Error Code can be used to identify an accidental alarm caused by an error while arming. Locally, it works as follows: If an exit delay rolls directly into entry delay as a result of a zone being left violated, the entry delay warning AND the siren will sound. If the control is not disarmed prior to the entry delay expiring, the communicator will report the alarm along with the Exit Error code. Range is 00 to FF. Default is 00 (no report).
AR1 19:Code= 00▸ Fail Communicate	Fail to communicate displays on the keypad and the event log when the communicator fails to complete it's report using the number of dial attempts. A good communications report must occur in order to reset/clear the failure. If this fail to communicate report code is enabled, it will be reported with next good communications to indicate a "past" failure. Range is 00 to FF. Default is 00 (no report).

Based on the event, the CID (Contact ID) or SIA Codes for Area Reporting Codes will be:

Area RCs	CID	SIA	Area RCs	CID	SIA
Alarm Abort	406	OC	Open After Alarm	450	OR
Alarm Cancel	406	OC	Early Open	451	OK
Automatic Close	403	CA	Fail To Open	453	OI
Early Close	451	CK	Late Open	452	OJ
Closing Extended	464	CE	Key Switch Open	409	OS
Fail To Close	454	CI	Keypad Locked Out	461	JA
Late Close	452	CJ	Exit Error	457	EE
Key Switch Close	409	CS	Fail To Communicate	354	RT
Duress	121	HA			

NOTE: On CID reporting the 3 digit code will be preceded by a "1" for a new event or an opening. It will be preceded by a "3" for a restore or a closing event.

Menu 10 - Zone Reporting Codes

10-Zone Reportng Codes ▸

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

NOTE: Enter a two digit value to enable a report code. To disable a report code enter 00. When SIA or Contact ID is the reporting format, the two digit value can simply be 01 since the control automatically produces the correct code according to the SIA or Contact ID protocol. For 4+2 pulse format, enter a value from 01 to FF. To enter the A thru F HEX characters press the RIGHT arrow key to position the cursor under the desired digit, then press the UP arrow (shift) key once. Each press of the 2 key will now produce the following: 2, A, B, C. Each press of the 3 key will now produce the following: 3, D, E, F. Press the RIGHT arrow key to cancel shift and move to the next character. See Appendix for a summary of the SIA and Contact ID codes.

Zone Report Codes

Z001: Sel◆ Prg▸
[Name of Zone]

Description of Option

Each of the 208 Zones has specific communicator reporting codes for Alarm, Restore, Bypass, and Trouble. Using the up/down arrow keys, select the appropriate zone, then press the right arrow key to begin programming of that zone.

Z001:A=00 R=00 ▸
Byp=00 Tbl=00

The cursor starts at the 00 beside A (Alarm). Enter the desired two digit reporting code and press the right arrow key to advance to the R (Restore). To jump the cursor to another report without changing this one simply press the right arrow key. The next press of the right arrow key after Tbl (Trouble) will advance the screen back to the beginning of that zone. Range is 00 to FF. Default for all entries is 00 (no report).

NOTE: Each reporting code must be programmed according to the desired reporting format. However, for SIA and Contact ID formats the actual reporting digits will be produced by the control according to the type of alarm or event. The only programming required to enable reporting with the SIA and Contact ID formats is to set the programmed code to a non zero (0) value. See below:

Based on the zone definition, the CID (Contact ID) or SIA formats for Zone Reporting Codes will be:

	Alarms		Restore		Bypass		Trouble	
Zone RCs	CID	SIA	CID	SIA	CID	SIA	CID	SIA
01 = Burglar Entry/Exit 1	134	BA	134	BR	573	BB	370	BT
02 = Burglar Entry/Exit 2	134	BA	134	BR	573	BB	370	BT
03 = Burglar Perim Inst	131	BA	131	BR	573	BB	370	BT
04 = Burglar Interior	132	BA	132	BR	573	BB	370	BT
05 = Burglar Int Follower	132	BA	132	BR	573	BB	370	BT
06 = Burglar Int Night	135	BA	135	BR	573	BB	370	BT
07 = Burglar Int Nt Fllwr	135	BA	135	BR	573	BB	370	BT
08 = Burglar 24 Hour	133	BA	133	BR	573	BB	370	BT
09 = Burglar Box Tamper	137	TA	137	TR	573	TB	370	BT
10 = Fire Alarm	110	FA	110	FR	571	FB	373	FT
11 = Fire Verified	110	FA	110	FR	571	FB	373	FT
12 = Fire Supervisory	200	FS	200	FR	571	FB	373	FT
13 = Aux Function 1	150	UA	150	UR	572	UB	----	----
14 = Aux Function 2	150	UA	150	UR	572	UB	----	----
15 = Keyfob	----	----	----	----	----	----	----	----
16 = Non Alarm	----	----	----	----	----	----	----	----
17 = Carbon Monoxide	162	GA	162	GR	572	GB	----	----

	Alarms		Restore		Bypass		Trouble	
Zone RCs	CID	SIA	CID	SIA	CID	SIA	CID	SIA
18 = Emergency Alarm	101	QA	101	QR	572	QB	----	----
19 = Freeze Alarm	159	ZA	159	ZR	572	ZB	----	----
20 = Gas Alarm	151	GA	151	GR	572	GB	----	----
21 = Heat Alarm	114	KA	114	KR	572	KB	----	----
22 = Medical Alarm	100	MA	100	MR	572	MB	----	----
23 = Police Alarm	120	PA	120	PH	572	PB	----	----
24 = Police No Indication	120	PA	120	HH	572	PB	----	----
25 = Water Alarm	154	WA	154	WR	572	WB	----	----
26 = Key Mom Arm/Disarm	----	----	----	----	----	----	----	----
27 = Key Mom Arm Away	----	----	----	----	----	----	----	----
28 = Key Mom Arm Stay	----	----	----	----	----	----	----	----
29 = Key Mom Disarm	----	----	----	----	----	----	----	----
30 = Key On/Off	----	----	----	----	----	----	----	----
31 = Mute Audibles	----	----	----	----	----	----	----	----
32 = Power Supervisory	338	YT	338	YR	572	UB	----	----
33 = Temperature	----	----	----	----	----	----	----	----
34 = Analog Zone	----	----	----	----	----	----	----	----

NOTE: On CID reporting the 3 digit code is preceded by a “1” for new events or a “3” for restore (previous reported) events.

Menu 11 - Keypad F-Key Reporting Codes

11-Keypad F-Key▸ Reporting Codes

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

Referring back to Menu 04-Keypad Definitions, each F Key (F1 thru F6) can be programmed to activate a specific event. If the programmed "activate event" is an alarm such as: Burg, Fire, Medical, Police Panic, etc., then it is possible to have an alarm report code transmitted when an F key is used to activate that event. Enter a two digit value for the "A" alarm report code. To disable the alarm report code enter 00. If the reporting format is SIA or Contact ID, the value can simply be 01 because the control will automatically produces the correct code according to alarm type using the SIA or Contact ID protocol. For 4+2 pulse format, enter a value from 01 to FF. To enter the A thru F HEX characters press the RIGHT arrow key to position the cursor under the desired digit, then press the UP arrow (shift) key once. Each press of the 2 key will now produce the following: 2, A, B, C. Each press of the 3 key will now produce the following: 3, D, E, F. Press the RIGHT arrow key to cancel shift and move to the next character.

F-Key Report Codes

FK01: A=00 ▸ [KP01 FKey01]

Description of Option

Each Keypad has 6 programmable F keys. This menu displays the F keys starting at FK01 thru FK06 for Keypad 1, then FK07 thru FK13 for Keypad 2, etc. Use the UP and DOWN arrow keys to select the appropriate keypad and key, then press the RIGHT arrow key to programming the code. It may take some experimenting but it is possible to jump directly to a specific keypad and key by entering a two digit number.

To program the alarm report code press the RIGHT arrow key to move the cursor into the A= column, then enter a two digit value. Range is 00 to FF. Default is 00 (no report). To return back to the left column to select another key or keypad press the ELK key

FK02:A=00 ▸ [KP01 FKey02]

NOTE: Each reporting code must be programmed according to the desired reporting format. However, for SIA and Contact ID formats the actual reporting digits will be produced by the control according to the type of alarm or event. The only programming required to enable reporting with the SIA and Contact ID formats is to set the programmed code to a non zero (0) value. See below:

Based on the F Key Event definition, the CID (Contact ID) or SIA formats will be:

Keypad Alarm RCs	Alarms CID	SIA
00 = Disabled	----	----
01 = Burglar Entry/Exit 1	134	BA
02 = Burglar Entry/Exit 2	134	BA
03 = Burglar Perim Inst	131	BA
04 = Burglar Interior	132	BA
05 = Burglar Int Follower	132	BA
06 = Burglar Int Night	135	BA
07 = Burglar Int Nt Delay	135	BA
08 = Burglar 24 Hour	133	BA
09 = Burglar Box Tamper	137	TA
10 = Fire Alarm	110	FA
11 = Fire Verified	110	FA
12 = Fire Supervisory	200	FS
13 = Aux1 24hr Alarm	150	UA
14 = Aux2 24hr Alarm	150	UA
15 = Keyfob	----	----
16 = Non-Alarm	----	----
17 = Carbon Monoxide	162	GA

Keypad Alarm RCs	Alarms CID	SIA
18 = Emergency Alarm	101	QA
19 = Freeze Alarm	159	ZA
20 = Gas Alarm	151	GA
21 = Heat Alarm	114	KA
22 = Medical Alarm	100	MA
23 = Police Alarm	120	PA
24 = Police No Indication	120	PA
25 = Water Alarm	154	WA
26 = Key Mom Arm/Disarm	----	----
27 = Key Mom Arm Away	----	----
28 = Key Mom Arm Stay	----	----
29 = Key Mom Disarm	----	----
30 = Key On/Off	----	----
31 = Mute Audibles	----	----
32 = Power Supervisory	338	YT
33 = Temperature	----	----
34 = Analog	----	----

NOTE: On CID reporting the 3 digit code will be preceded by a "1".

Menu 12 - Sys Report Code Options & Codes

12-Sys Rpt Code ▸
Options & Codes

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

System Report Codes and Options are global to the entire system such as Low Battery, AC Fail, etc. Using the up/down arrow keys, select the appropriate option, then press the right arrow key to begin programming that option.

NOTE: Enter a two digit value to enable a report code, enter 00 to disable. With SIA or Contact ID format, the two digit value can be 01 as the control automatically inserts the correct code according to the SIA or Contact ID protocol. For 4+2 pulse format, enter 01 to FF. For A thru F HEX characters press the RIGHT arrow key to position the cursor under the desired digit, then press the UP arrow (shift) key once. Presses of the 2 key produces the following: 2, A, B, C. Presses of the 3 key produces the following: 3, D, E, F. Press the RIGHT arrow key to cancel shift and move to the next character. See Appendix for a summary of the SIA and Contact ID codes.

Sys Rpt Code Options	Description of Option
SR01: 015=AC Fail Rpt Delay - Min▸	Reporting of AC Fail may be delayed from 001 to 255 minutes. Default is 15 minutes. Setting this location to 255 results in no AC failure at the keypad or reporting by the dialer.
SR02: T=00 R=00 ▸ AC Fail Codes	T (Trouble) code is code reported upon AC failure, after any AC Fail Rpt delay time. R (Restore) is code reported immediately upon restoral of the AC power. Range is 00 to FF. Default is 00 (no report).
SR03: 00 = Auto▸ Test Code	Auto Test code is used to verify that the telephone line and internal communications circuitry is functioning properly. Range is 00 to FF. Default is 00 (no report).
SR04: =00:00 ▸ Auto Test Hr:Min	Auto Test Hr:Min may be set to occur at any specific hour and minute, using military time format. IE: 7:30 is AM, 19:30 is 7:30pm. Default is 00:00 (Midnight)
SR05: 000=Days ▸ Between AutoTest	Can be used to skip Auto Test for a number of days, (000 to 255). A value of 000 or 001 is one in the same, resulting in the test code being reported daily at the Auto Test time.
SR06: T=00 R=00 ▸ Aux Overcurrent	T (Trouble) is code reported when auxiliary power overload is detected. R (Restore) is code reported when the overload ceases. Range is 00 to FF. Default is 00 (no report).
SR07: T=00 R=00 ▸ Exp Module Tbl	T (Trouble) is code reported when an enrolled data bus module fails to respond or is missing. R (Restore) is code reported when module is restored. Range is 00 to FF. Default is 00 (no report).
SR08: 00=Instal▸ Program Begin	Used to report when the Installer Level of Programming has been entered. Range is 00 to FF. Default is 00 (no report).
SR09: 00=Instal▸ Program End	Used to reporting when Installer Programming has ended. Report not sent until the * key is pressed 3 time, signifying final program end. If the * key sequence is not pressed, the report will occur automatically at Midnight. Range is 00 to FF. Default is 00 (no report).

Sys Rpt Code Options	Description of Option
SR10: 00= Log 80% Full	Log 80% Full reports whenever the Event Log becomes 80% full. Range is 00 to FF. Default is 00 (no report). The Elk-RP is required to download the log and/or clear it.
SR11: T=00 R=00 Low Battery	T (Trouble) is code reported if battery test drops below 11.2 Volts. R (Restore) is code reported once battery test passes at 11.5 Volts or higher. Range is 00 to FF. Default is 00 (no report).
SR12: T=00 Memory Error	**THIS PROGRAMMING LOCATION IS NO LONGER USED**
SR13: 00= Up/ Download End	Code reported upon completion of a Up/Download session. This can be used as a verification that the control was accessed. Range is 00 to FF. Default is 00 (no report).
SR14: T=00 R=00 Phone Line Fault	T (Trouble) is code reported upon detection of Voltage/Current loss on the telephone line. R (Restore) is code reported immediately upon restoral of the telephone line. Range is 00 to FF. Default is 00 (no report). To avoid nuisance reports caused by brief phone outages caused by telephone linemen or central office repairs, there is a 3 minute (default) time delay before telephone line fault is annunciated and reported. The delay time is programmed from 01 to 31 seconds but ONLY by use of the ElkRP Programming Software. [A delay of 01 is the same as 00 or instant]
SR15: T=00 R=00 Output 2 Trouble	T (Trouble) is code reported upon an open circuit occuring on Output 2. R (Restore) is code reported upon restoral of the connection. Range is 00 to FF. Default is 00 (no report).

Based on the event, the CID (Contact ID) or SIA Codes for System Reporting Codes will be:

System RCs	CID	SIA	System RCs	CID	SIA
AC Fail	301	AT	Log 80% Full	623	J L
AC Restore	301	AR	Low Backup Battery	302	YT
Automatic Test	602	R P	Low Battery Restore	302	Y R
Aux Over Current	312	YP	Memory Error	304	YF
Aux Over Current Restore	312	YQ	Remote Programming End	412	R S
Expansion Module Trouble	333	E T	Telephone Line Fault	351	L T
Expansion Module Restore	333	E R	Telephone Line Restore	351	L R
Local Programming Begin	627	L B	Output 2 Trouble	322	YA
Local Programming End	628	L X	Output 2 Restore	322	Y H

NOTE: On CID reporting the 3 digit code is preceded by a “1” for new events or a “3” for restore (previous reported) events.

NOTE: UL requires that a Technician be On-Site when doing Remote Programming.

Menu 13 - User Report Codes

13-User Report Codes ▸

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

NOTE: Enter a two digit value to enable a report code. To disable a report code enter 00. When SIA or Contact ID is the reporting format, the two digit value can simply be 01 since the control automatically produces the correct code according to the SIA or Contact ID protocol. For 4+2 pulse format, enter a value from 01 to FF. To enter the A thru F HEX characters press the RIGHT arrow key to position the cursor under the desired digit, then press the UP arrow (shift) key once. Each press of the 2 key will now produce the following: 2, A, B, C. Each press of the 3 key will now produce the following: 3, D, E, F. Press the RIGHT arrow key to cancel shift and move to the next character. See Appendix for a summary of the SIA and Contact ID codes.

User Report Codes	Description of Option
UR001: Sel◆ Prg▸ [Name of User]	Each of the 99 User Codes and the Installer has communicator reporting codes for Open (disarm) and Close (arm). Using the up/down arrow keys, select the appropriate user, then press the right arrow key to begin programming of that user's report codes.
UR001:O=00 C=00▸ [Name of User]	The cursor starts at the 00 beside O (Open). Enter the desired two digit reporting code and press the right arrow key to advance to the C (Close). Range is 00 to FF. Default is 00 (no report). To jump the cursor to the next report code without changing this one simply press the right arrow key. The next press of the right arrow key will advance back to the beginning screen.
UR201:O=00 C=00▸ Installer Op/Close	
UR202:O=00 C=00▸ Up/Dnload Op/Cl	The total number of available User Codes is dependent on the Version of Firmware that is operating in the control.
UR203:O=00 C=00▸ Quick Arm	

The CID (Contact ID) or SIA Codes for User Reporting Codes are:

User RCs	CID	SIA
Open	401	OP
Close	401	CL

NOTE: On CID reporting the 3 digit code is preceded by a "1" for an opening event or a "3" for a closing event.

Menu 14 - Wireless Definitions †

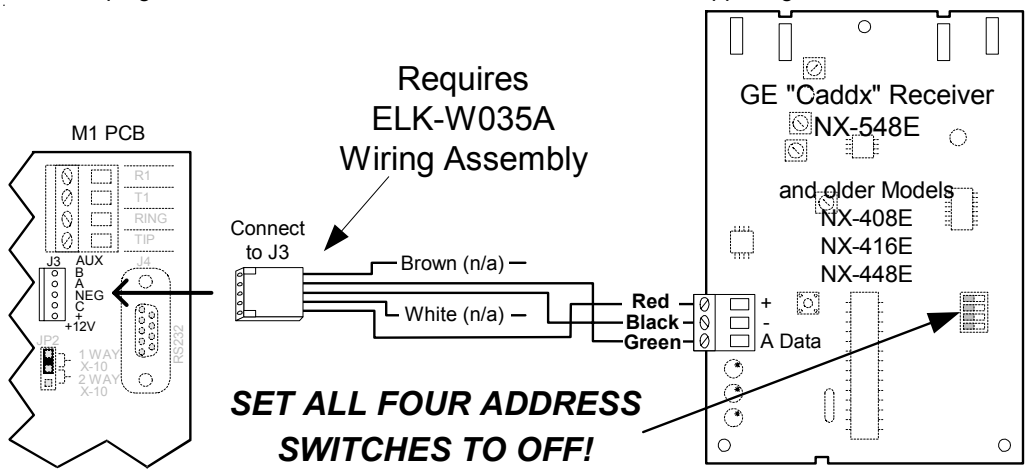
14-Wireless Definitions ▸

Press RIGHT arrow key to select this menu. Press UP or DOWN arrow keys to select another menu. The ELK key backs up one menu level. To exit press the * or Exit key.

Elk manufacturers add-on “M1XRF” Wireless Receivers that can be used to add multiple wireless zones (up to 144) to the M1. Please refer to the particular instructions that are packed with the Elk Receivers.

M1 is also compatible with the GE “Caddx” brand receiver model NX548E (48 zones) using the GE transmitters. Instructions below detail how to use and program with the GE receiver, including notes for the discontinued GE models NX408E (8 zn), NX416E (16 zn), and NX448E (48 zn) receivers. Only 1 Receiver may be connected to the control. A special 5 pin wiring harness (ELK-WO35A) is required and it plugs into connector J3 “Aux Data Bus” located on the upper right side of the board.

Compatible NX”E” receivers can be identified by serial # that begin with 231, 232, or 233. Older “non-compatible” receivers begin with 99, 100, & 101.



Wiring Diagram for GE “Caddx” NX Receiver to ELK Control

WirelessDefinitions	Description
1:Rec Sel◆ Prg▸ Receiver Options	Wireless Definitions menu is broken into four sections: 1:Receiver Options, 2:Xmitter Options, 3:Xmitter Enroll, and 4:Keyfob Event Definitions. Used the Up or Down arrow keys to pick the sections and then press the right arrow key to program.
RO1:=0 Rec Size▸ 0=8 ZoneReceiver	Selects the size of the connected Receiver to reserve the appropriate number of zones. For a NX408E (8 zones) enter a 0, NX416E (16 zones) enter a 1, NX448E 48 or NX548E (48 zones) enter a 2.
RO2:=00 ZnBank ▸ StartingZone xxx	Using the receiver size setting and this starting number, the M1 blocks out the required number of zones. If a hardwired zone expander is encountered, resulting in a duplicate zone, the M1 will error tone and return to a 00 setting. To resolve the conflict: move the starting zone to another setting, move the conflicting zone expander to another address, or reduce the receiver size setting. Valid starting zones must be increments of 16: **02=(Zone 17) 04=(Zone 33) 06=(Zone 49) 08=(Zone 65) 10=(Zone 81)** **12=(Zone 97) 14=(Zone 113) 16=(Zone 129) 18=(Zone 145) 20=(Zone 161) 22=(Zone 177)** Example: Entering a value of 2 for receiver size and 02 for starting zone would block out 48 zones from 17 thru 64 as wireless. NOTE: If an 8 zone receiver is installed, the upper 8 zones are not available (wasted) as far as the control is concerned. The NX416E and NX448E are therefore better economic choices.
RO3:=24 Hours ▸ Reg. Supervision	R03: Reg. Supervision sets the interval, in hours, for “check-in” by transmitters which are programmed for “Supervision Type 1”, see transmitter option 01. Valid range is 001 to 255 hours, however a value lower than 4 is not recommended. Default value is 24.
RO4:=004 Hours ▸ Fire Supervision	R04: Fire Supervision sets the interval, in hours, for “check-in” by transmitters which are programmed for “Supervision Type 2” (Fire), see transmitter option 02. Valid range is 001 to 255 hours, however a value lower than 4 is not recommended. Default value is 004.

† Not evaluated by UL

2:Xmit Sel◆ Prg▸
Transmitter Opt▸

Press the RIGHT arrow key to select 2:Xmit Transmitter Opt.

WZnxxx:Sel▸ Prg▸
Wireless Zone

Use the UP and DOWN arrow keys to locate a particular wireless transmitter. Press the RIGHT arrow key to select and program the displayed transmitter.

WZnxxx 01:=No ▸
Enable Transmitr

This selection determines whether or not the transmitter is enabled. Whenever you enroll a new transmitter this location will be automatically set to Yes. To permanently or temporarily disable this transmitter program this to No.

WZnxxx02:=0 ▸
Supervision Type

This selection determines the "Supervision Type" for the transmitter. 0=No Supervision, 1=Regular Supervision, 3=Fire Supervision. See receiver selections R02 and R03 for supervision time values. Default is 1.

WZnxxx 03:=No ▸
Enable Option 1

This selection corresponds to the **Caddx Transmitter Option 1** which deals with enabling or disabling the internal reed switch on the individual Caddx transmitter so that an external switch may be hardwired to the transmitter. ***Refer to the Caddx NX Series Receiver Instructions, Option 1, for complete details.***

WZnxxx 04:=No ▸
Enable Option 2

This selection corresponds to the **Caddx Transmitter Option 2** which deals with whether an external switch should be normally open (N/O) or normally closed (N/C). For N/O set option to No. For N/C set option to Yes. ***Refer to the Caddx NX Series Receiver Instructions, Option 2, for complete details.***

WZnxxx 05:=001 ▸
Keyfob User ID

If the transmitter is a keyfob, this sets the User ID to be logged when the keyfob is used to arm or disarm. Valid range is 001 to 255. Numbers 001 to 099 mirror the keypad user codes. To report an open/close from a keyfob, program the corresponding keypad user code to report. A report will be sent regardless of whether it was a user code or a keyfob that armed/disarmed the system. NOTE: Since there are no open/close report codes beyond user 99, any keyfob ID that is set higher that 99 will utilize the opening/closing report code for User 99.

3:Learn Sel◆ Prg▸
WirelessTransmtr

Press the RIGHT arrow key to select 3:Learn Wireless Transmitters.

WZone = xxx ▸
TransmtToEnroll

Press the UP or DOWN arrow keys to locate the wireless zone that you wish to enroll. Then press the RIGHT arrow key to continue.

WZone = xxx Push
TransmiterButton

Go to the transmitter and press the tamper or enroll button. The keypad should emit a short tone when the transmitter becomes enrolled.

4:KeyfobSel◆ Prg▸
Event Definition

Press the RIGHT arrow key to select 4:Keyfob Event Definition

Keyfob Button=1▸
1000=Event

Press the UP or DOWN arrow keys to locate the keyfob button to program. There are a total of 8 programmable buttons, however only 6 of the 8 may be used on the keyfob. The valid activation events programmable for each button ranges from 0000-0030 (utilizing the Zone Definitions table) and 2001-2032 (utilizing Appendix A, Event Codes).

The standard buttons are as follows: Button 1 (Lock), 2 (Unlock), 3 (Light), and 4 (Asterisk). For Button 7 press a combination of buttons 1 & 2 together at the same time. For Button 8 press a combination of buttons 3 & 4 together at the same time.

Button 3 on a keyfob can be changed to 5 by setting the transmitter Option 1 to Yes. Button 4 on a keyfob can be changed to 6 by setting the transmitter Option 2 to Yes.

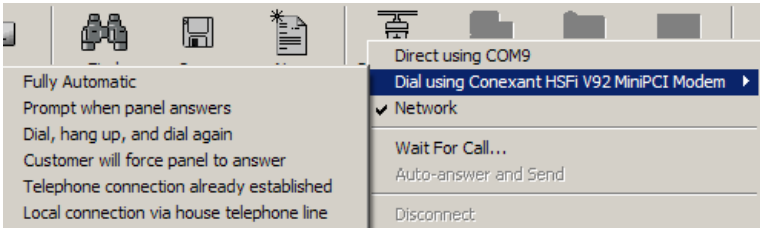
Section 4 - PC Programming and Automation Capabilities

4.1 ELK-RP Software

ELK-RP (RP) is a Windows based software package that is compatible with Windows 98 and later. It features an extremely intuitive user interface and contains all data in a central database. RP can be run on a single PC or over a local area network (LAN) with multiple operators. In addition to the traditional security programming features, RP allows you to create and manage the automation functionality in the control. The following information is a brief overview including illustrations of the various screens. Please refer to RP's on-line help file for specific operation details.

4.1.1 RP Connection Methods

There are 3 methods for the RP software to connect with the control. Regardless of the method, the control's serial number and RP access code MUST match in order for the connection to be successful. The connection methods are:



1. **Direct using Com_** (PC Com port) - Requires a 9 pin serial cable from the PC's RS-232 Com port to the M1's on-board 9 pin serial port. Data transfer is 115,200 baud. **NOTE: If your computer only has a USB port, an approved converter (USB to RS-232) is available from ELK (ELK-USB232).**

2. **Dial-up using Modem** and phone line - RP is compatible with virtually all computer modems, even 56k modems. This is due to the M1's built-in V.22 bis "True" modem, which handles data transfer at 2,400 baud. The 6 dial-up options are:
   Fully Automatic - RP dials the control phone number and listens for the control to answer on it's "rings until answer" setting. If an answering machine answers, RP will transmit codes to override it automatically.
   Prompt when answer - RP dials and listens for the control to answer. It waits for a manual OK before connecting.
   Dial, hang up, dial again - This is faster than waiting on the control's "rings until answer" setting. It is also useful for reaching premises that have telephone company answer/forward services. The control must be enabled for this option. After dialing, RP leaves the PC speaker on, and prompts you to click "Hang-up" after you hear two rings. It then forces a time delay before allowing you to click OK to start the second dial. As long as the control properly detects the first two rings and subsequent hang-up, it will wait up to 45 seconds for a second call and answer that call on the first ring.
   Customer will force answer - Similar to method 1 except the User must enter keypad menu 8, option 5, item 1 to force the control to answer. This is necessary if the "rings until answer" or "dial/hang-up/dial" options are not programmed.
   Telephone connection already established - If a voice connection is already established using the control's phone line and the PC's phone line, this method can be used to take over the connection and initiate an immediate connection.
   Local connection via house telephone line - Convenient way to connect locally from virtually any house phone jack that is on the same phone line as the one attached to the control. Connect the PC modem to the phone wall jack, click on Local Connection, and RP will pick up the line and enter the access codes required to connect with the control.

3. **Network** - With an optional ELK-M1XEP Ethernet Port module you can connect over a Local or Wide Area Network. (Contact ELK for details)

NOTE: UL requires that a Technician be On-Site when doing Remote Programming.

4.1.2 Check for Conflicts

During the connect and disconnect process RP performs an automatic check of the data stored in the control and compares it the database. If there are any conflicts (differences), a pop-up resolution window display them and allows corrections to be made. ELK regards "Check for Conflicts" to be an especially important feature. It can point out any changes that have occurred such as a user having added or changed a code. The resolution window allows you to receive the control's data into the database (accept the local version) or send the RP data to the control (accept the database version). **NOTE: Checking for conflicts adds considerable time to the connect/disconnect process, especially on dial-up connections. For this reason, the automatic check for conflicts may be disabled from the SETUP menu. A manual Check for Conflicts can be selected from the Send/Rcv icon.**

4.1.3 Sending and Receiving Data

RP allows many options and groups of options to be sent or received individually, which greatly reduces the on-line connect time if there are only a few items to be changed. However, a full send or receive occurs very quickly, thanks to the M1's built-in V.22 bis "True" Modem. RP features easy to use menus & toolbar icons and makes extensive use of the right mouse button to perform operations. Try right clicking on any item or icon to see the available options.

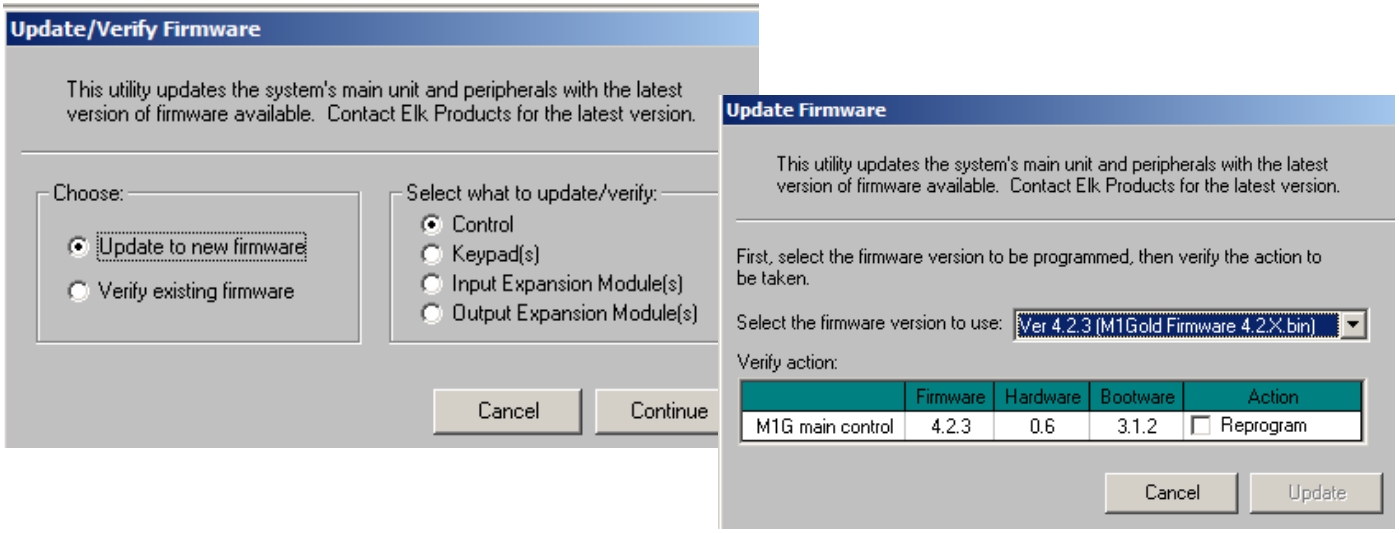
4.2 Update/Verify Firmware in the Control and Peripherals

The control stores it's operating firmware in "Flash" memory. This state-of-the-art memory allows electronic field updates to the control and its peripherals, and eliminates the old fashion method of changing IC chips or shipping boards back to the factory. As new firmware updates become available, they will be posted on ELK's website [www.elkproducts.com] in a password restricted "M1 Dealers ONLY" location. **NOTE: Firmware updating can only be done from a Direct to PC Com port connection or an optional Ethernet Network connection. Due to the amount of data that has to be transferred, Dial-up connections cannot be used to perform firmware updates.**

How to Update Firmware:

1. Connect a 9 pin serial cable from the Computer's Serial Port to the 9 Pin RS232 Connector on the control.
2. Start RP and open the account belonging to that particular control. Click on the Connection menu icon and establish a connection using the **Direct using Com_** option.
3. Click on Update/Verify Firmware from the Send/Rcv menu icon.
4. On the Update/Verify screen, select the device to be updated (Control, Keypad, etc.) along with the "Update to new firmware" option. Then click Continue.
5. The Update Firmware screen displays the device name, the current Firmware, Hardware, and Bootware version, and a pull down window for selecting the firmware version to use on the update. Always select the latest firmware version (highest number). Be sure to save all update (.bin) files that are downloaded or received via CDROM into the ~Program Files\ElkRP\Updates directory on your computer. This is where RP looks for all update files.
6. Click on the check box for "Update". If "Reprogram" or "Rollback" is displayed the firmware file is the same as OR older that what is in the control. Reprogramming with the same firmware is a waste of time but was included for factory testing purposes. Rollback is not recommended except under the guidance of Elk Technical Support.

   NOTE: The option for "Verify existing firmware" on the Update/Verify screen is normally not required except for factory diagnostics. If the control has multiple keypads, expanders, etc., RP will display the details about each one onscreen with a check box for selecting units for updating.

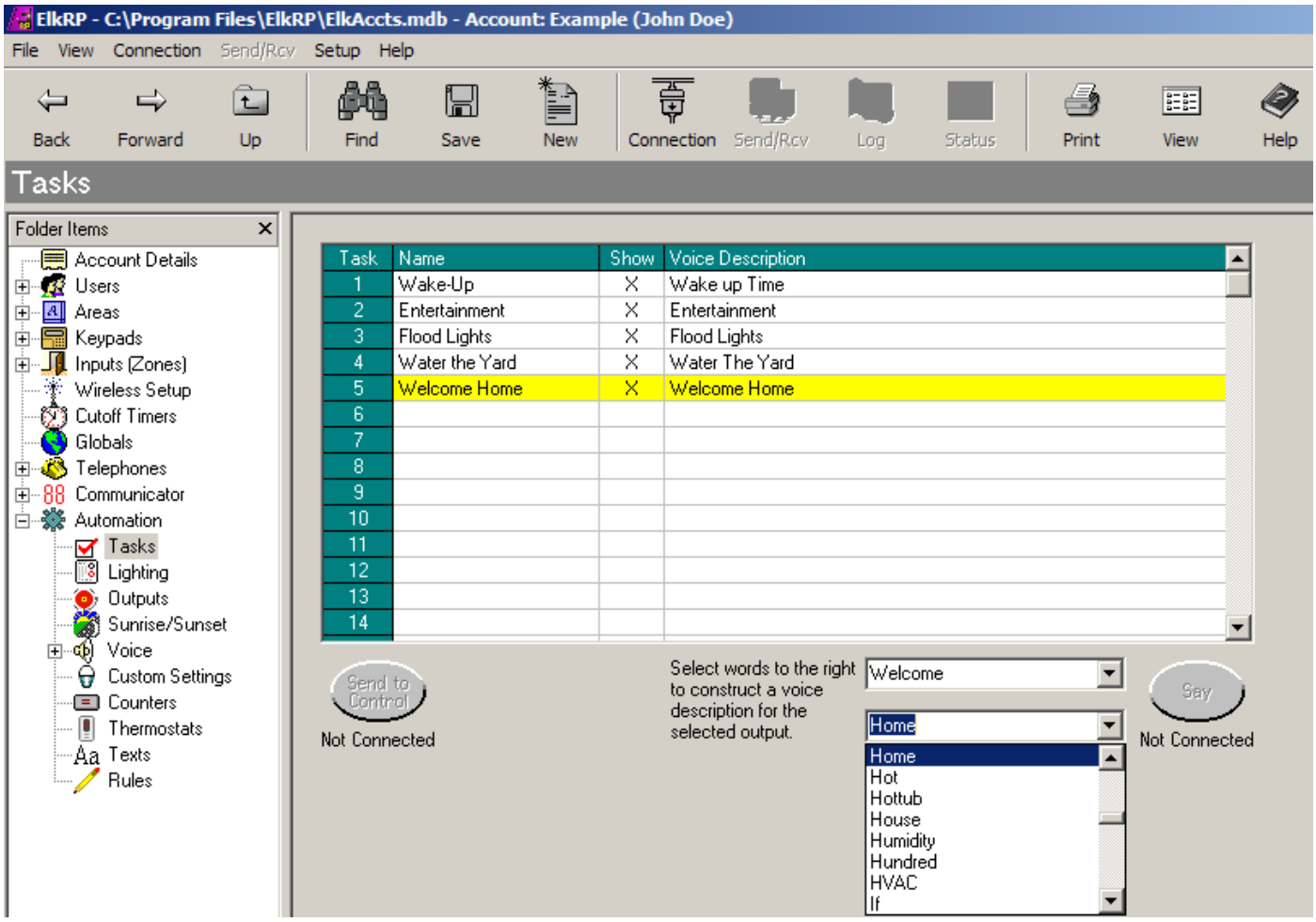


4.3 Automation Rules and Attributes

The RP Automation Programming software offers powerful, easy to setup and manage, life style enhancement features. The automation programming allows mixing and matching of lighting components, outputs (relays or voltage), thermostats, temperature sensors, and all the security inputs and features to integrate functions that add value and appeal to the owner/ user. Lights can be set to turn on and off in response to a time or day, a certain sensor, or according to the arm/disarm status of the security control. Outputs can be set to control door strikes, irrigation sprinklers, circulating pumps valves, etc.

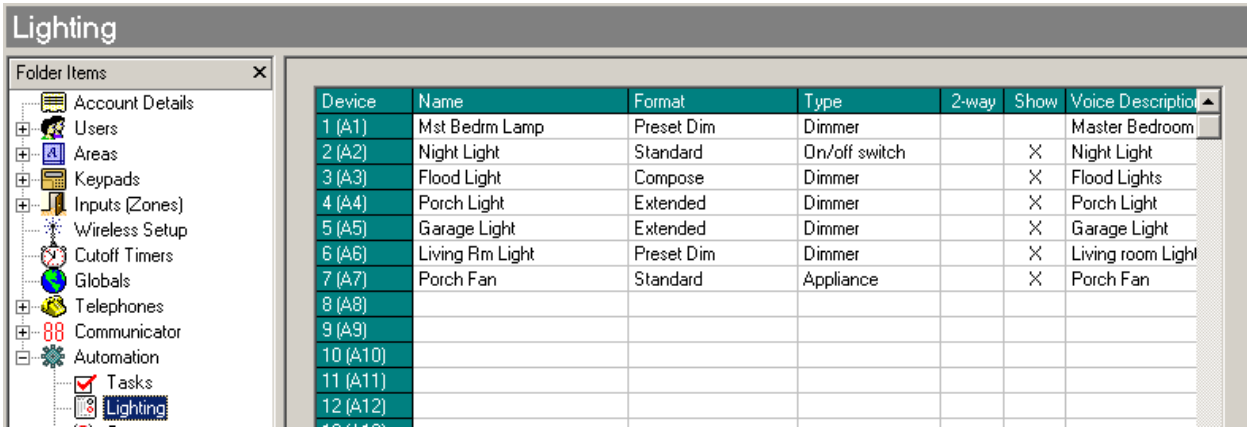
The power behind the automation features is the unique RULES Engine. Rules are expressions of what you would like to happen at a given time or in response to a set of circumstances. The following information is intended to provide an overview of the vast automation features in the control.

† **TASKS** - A Task is similar to a computer macro, in that a single activation can result in multiple actions or events. **The actions and triggering of a Task must be written or developed in a Whenever/And/Then Rule.** The purpose of the task screen is to assign each task its own 16 character description, 6 word voice phrase, and the ability to "Show" on the keypad or the telephone remote control menu. Up to 32 Tasks can be programmed. Examples are "Water the Lawn" which could be used to turn on a series of outputs or relays to control underground water valves for a certain time duration. "Welcome Home" could be task used to control a series of lights at a given time or day or in response to someone disarming the security system. The following shows several tasks and the voice description word listing.

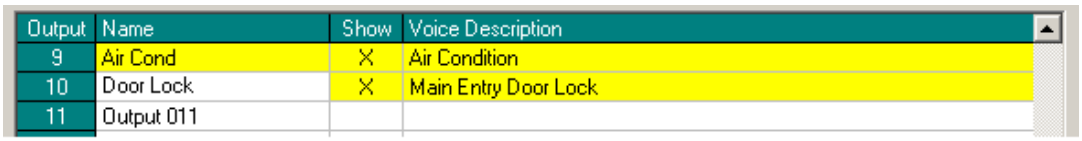


† Not evaluated by UL

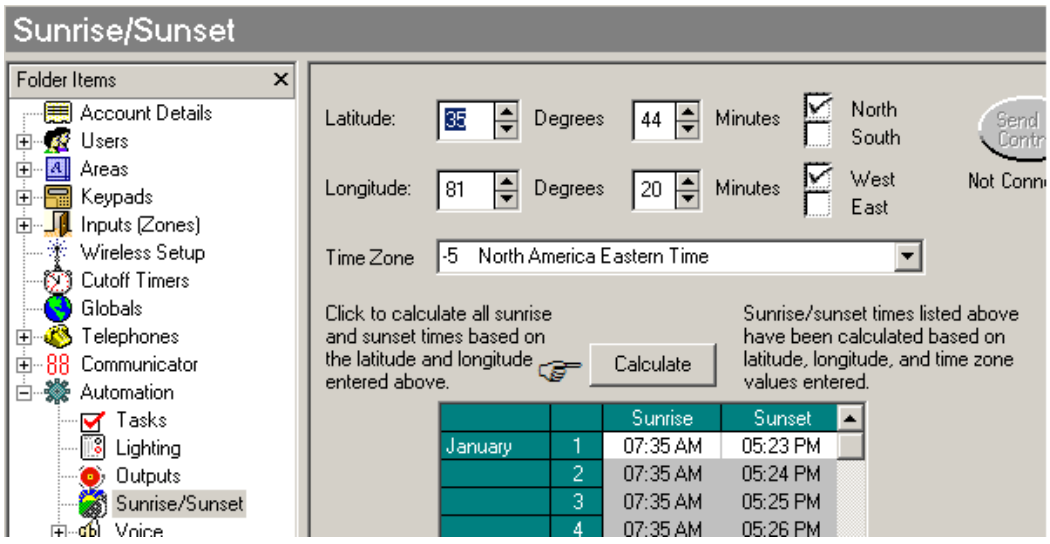
† **LIGHTING -** The control can handle up to 256 Light (or appliance) devices. Each is assigned to one of 256 addresses. Each device is displayed in a column format with the following options and settings: **Name** - Each device can be given a 16 character name (description) which is displayed on the keypad when the light is being controlled. **Format** - This pull down box selects the protocol of the device. The available Lighting formats are: Standard, Extended, Preset dim, Compose, Serial Port. The Serial port format is for UPB, ALC, Centralite, others through an ELK-M1XSP Lighting/Thermostat/Serial Expander Interface. **Type** - This pull down box selects the whether the device is a: On/Off Switch, Dimmer, or Appliance. **Show** - If this box is checked the device will appear "show" on the keypad and telephone remote as you scroll through the automation control menus. **2-way** - This checkbox is used to record whether the device is capable of replying back to commands. **Voice Description** - Click on this box to pop up a window for programming a custom 6 word voice phrase. The voice is used primarily during a telephone remote session. **NOTE: Additional lighting formats are in development, including the new Z-Wave wireless devices. Even if a lighting product is not directly supported, it is always possible to use RS-232 ASCII strings for communicating lighting control.**


Lighting
Folder Items
Account Details
Users
Areas
Keypads
Inputs (Zones)
Wireless Setup
Cutoff Timers
Globals
Telephones
Communicator
Automation
Tasks
Lighting
Device | Name | Format | Type | 2-way | Show | Voice Description
1 (A1) | Mst Bedrm Lamp | Preset Dim | Dimmer | | | Master Bedroom
2 (A2) | Night Light | Standard | On/off switch | | X | Night Light
3 (A3) | Flood Light | Compose | Dimmer | | X | Flood Lights
4 (A4) | Porch Light | Extended | Dimmer | | X | Porch Light
5 (A5) | Garage Light | Extended | Dimmer | | X | Garage Light
6 (A6) | Living Rm Light | Preset Dim | Dimmer | | X | Living room Light
7 (A7) | Porch Fan | Standard | Appliance | | X | Porch Fan
8 (A8)
9 (A9)
10 (A10)
11 (A11)
12 (A12)

OUTPUTS - These can be in the form of voltage only, relays, or a combination of the two. Up to 208 outputs may be controlled. The first 32 outputs have a 16 character description, 6 word voice phrase, and the "Show" on keypad or telephone remote option. However, any output may be controlled from the keypad or telephone remote by entering its number. Outputs can be used to actuate door locks, motors, fan, pumps, etc.



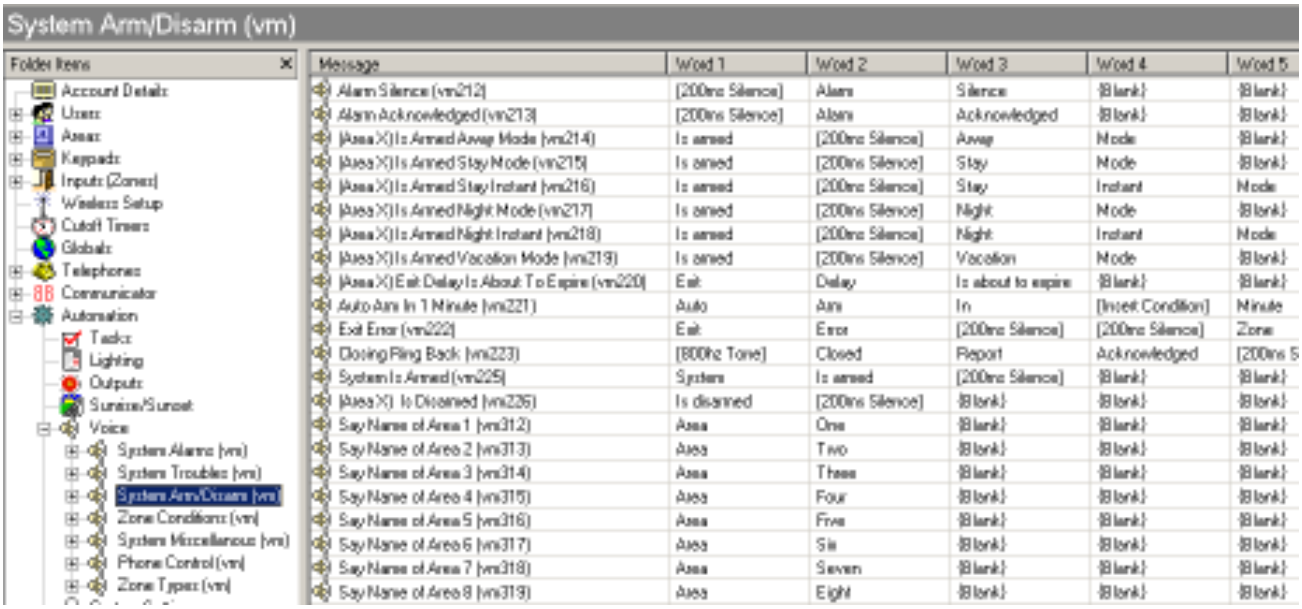
SUNRISE/SUNSET - Sunrise and sunset can be used to control lighting and other entities. This section is the setup for the built-in Astronomical clock, which is capable of calculating sunrise and sunset times automatically. The inputs necessary to setup the control for sunrise/sunset are latitude, longitude, and the time zone value where the control is installed. Latitude/ longitude information can often be found printed on city or state highway maps, or it can be researched on the internet. After entering the required information, click calculate and then send to the control.



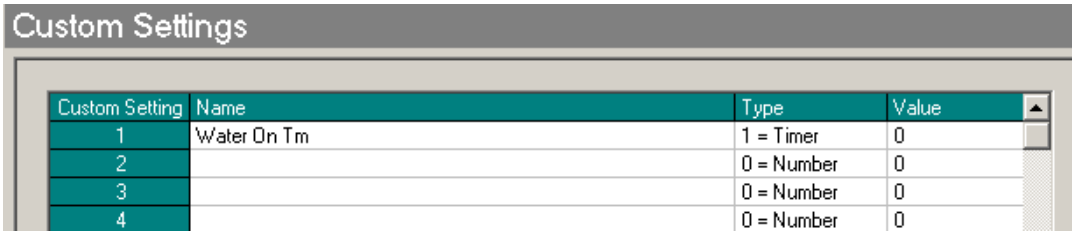
NOTE: The Time Zone automatically assumes "standard time". Therefore, the calculated times will reflect standard time. If the control is set for "Observe Daylight Savings Time" the sunrise/sunset times will be adjusted by the control accordingly.

† Not evaluated by UL

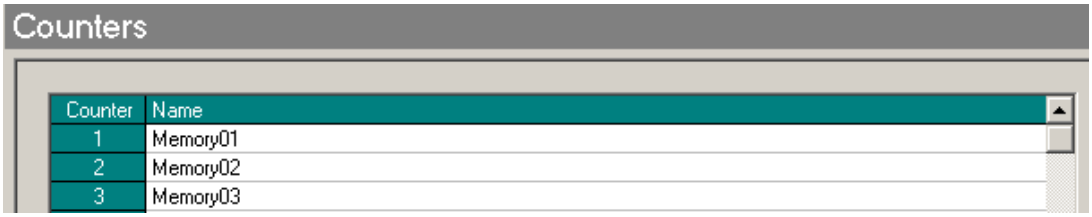
† **VOICE -** This section is used to setup and customize many of the 6 word phrases that can be spoken by the control during a certain event or when commanded by an automation rule. The capabilities of this section are quite powerful. The library contains over 500+ words in addition to specialized speech commands for inserting conditions, current time, status/ state, time delays, and even an 800hz tone. In addition, any of the 10 custom recordable messages can be included when building these 6 word phrases.


System Arm/Disarm (vm)
Folder Items
Account Details
Users
Areas
Keypads
Inputs (Zones)
Wireless Setup
Cutoff Timers
Globals
Telephones
Communicator
Automation
Tasks
Lighting
Outputs
Sunrise/Sunset
Voice
System Alarms (vm)
System Troubles (vm)
System Arm/Disarm (vm)
Zone Conditions (vm)
System Miscellaneous (vm)
Phone Control (vm)
Zone Types (vm)
Message
Word 1
Word 2
Word 3
Word 4
Word 5
Alarm Silence (vm212) [200ms Silence] Alarm Silence {Blank}
Alarm Acknowledged (vm213) [200ms Silence] Alarm Acknowledged {Blank}
[Area X] Is Armed Away Mode (vm214) Is armed [200ms Silence] Away Mode {Blank}
[Area X] Is Armed Stay Mode (vm215) Is armed [200ms Silence] Stay Mode {Blank}
[Area X] Is Armed Stay Instant (vm216) Is armed [200ms Silence] Stay Instant Mode
[Area X] Is Armed Night Mode (vm217) Is armed [200ms Silence] Night Mode {Blank}
[Area X] Is Armed Night Instant (vm218) Is armed [200ms Silence] Night Instant Mode
[Area X] Is Armed Vacation Mode (vm219) Is armed [200ms Silence] Vacation Mode {Blank}
[Area X] Exit Delay Is About To Expire (vm220) Exit Delay Is about to expire {Blank} {Blank}
Auto Arm In 1 Minute (vm221) Auto Arm In [Insert Condition] Minute
Exit Error (vm222) Exit Error [200ms Silence] [200ms Silence] Zone
Closing Ring Back (vm223) [800hz Tone] Closed Report Acknowledged [200ms S
System Is Armed (vm225) System Is armed [200ms Silence] {Blank} {Blank}
[Area X] Is Disarmed (vm226) Is disarmed [200ms Silence] {Blank} {Blank} {Blank}
Say Name of Area 1 (vm312) Area One {Blank} {Blank} {Blank}
Say Name of Area 2 (vm313) Area Two {Blank} {Blank} {Blank}
Say Name of Area 3 (vm314) Area Three {Blank} {Blank} {Blank}
Say Name of Area 4 (vm315) Area Four {Blank} {Blank} {Blank}
Say Name of Area 5 (vm316) Area Five {Blank} {Blank} {Blank}
Say Name of Area 6 (vm317) Area Six {Blank} {Blank} {Blank}
Say Name of Area 7 (vm318) Area Seven {Blank} {Blank} {Blank}
Say Name of Area 8 (vm319) Area Eight {Blank} {Blank} {Blank}

CUSTOM SETTINGS - These are 20 memory locations which may be assigned a 12 character description, a function type (one of 3), and a starting value. An authorized user can then access the custom settings from keypad user menu 7- Automation Custom Settings, and modify the value whether it be a numeric value, a timer (seconds), or a time-of-day. Incorporating custom settings in rules provides the user the ability to modify how the rule will operate. For instance, the user can modify the time or duration for the lawn sprinklers which have been programmed to turn on automatically. The function types include: A 5 digit raw number with a range of 00000 to 65,535, a 5 digit timer (seconds) with a range of 00000 to 65,535 seconds, or a Time (time of day) which is formatted as 00:00 with a range of 00:00 to 23:59.

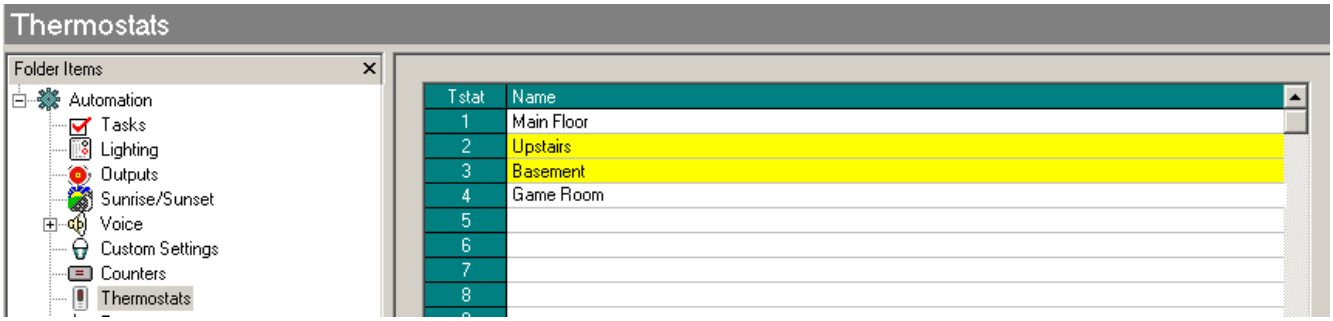


COUNTERS - These memory locations (often called flags) can be set, incremented, decremented, or compared by an automation rule to track an event or keep up with how many times an event has occurred. There are a total of 64 counters. Each can be programmed with a 12 character description, making it easy to reference in an automation rule.

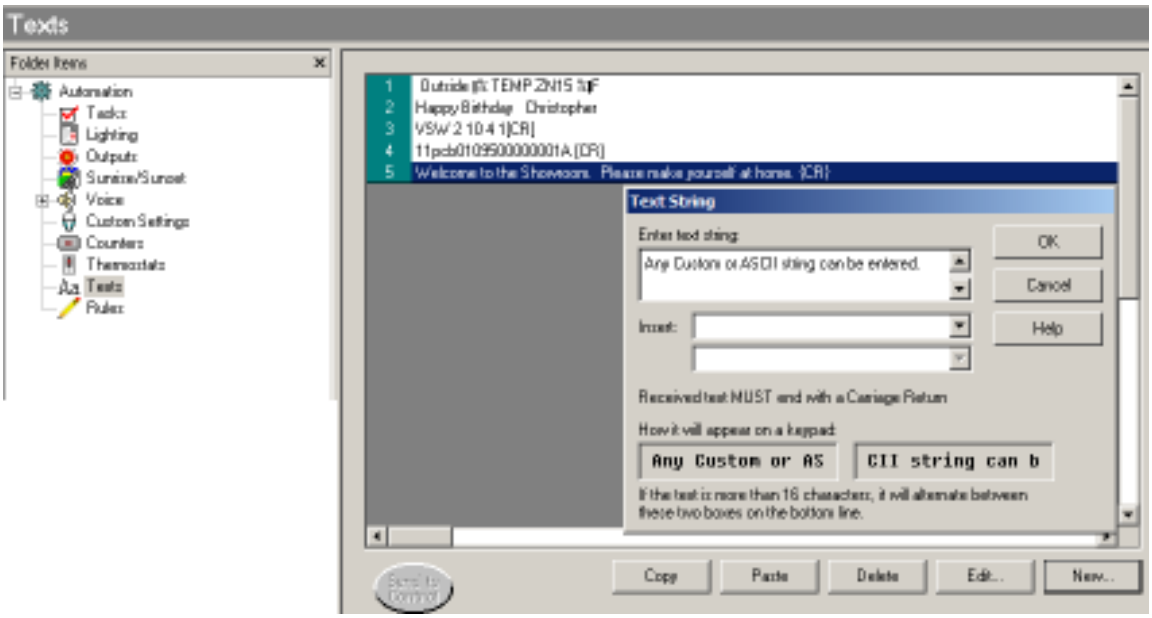


† Not evaluated by UL

† **THERMOSTATS -** HVAC Thermostats may be read and/or controlled by the control and its automation rules engine. This menu allows each thermostat to be assigned a 12 character description for easy reference in an automation rule. Currently compatible thermostats include: RCS, Aprilaire, and HAI. Due to the various data protocols, a Lighting/Thermostat/Serial Interface Expander (ELK-M1XSP) is needed to couple the data bus to HVAC thermostats. Depending on the brand of thermostat, its wiring interface (RS-232 or RS-485), up to 16 HVAC thermostats can be controlled. Many communicating thermostats operate stand-alone when they are not being remotely commanded by an automation controller.

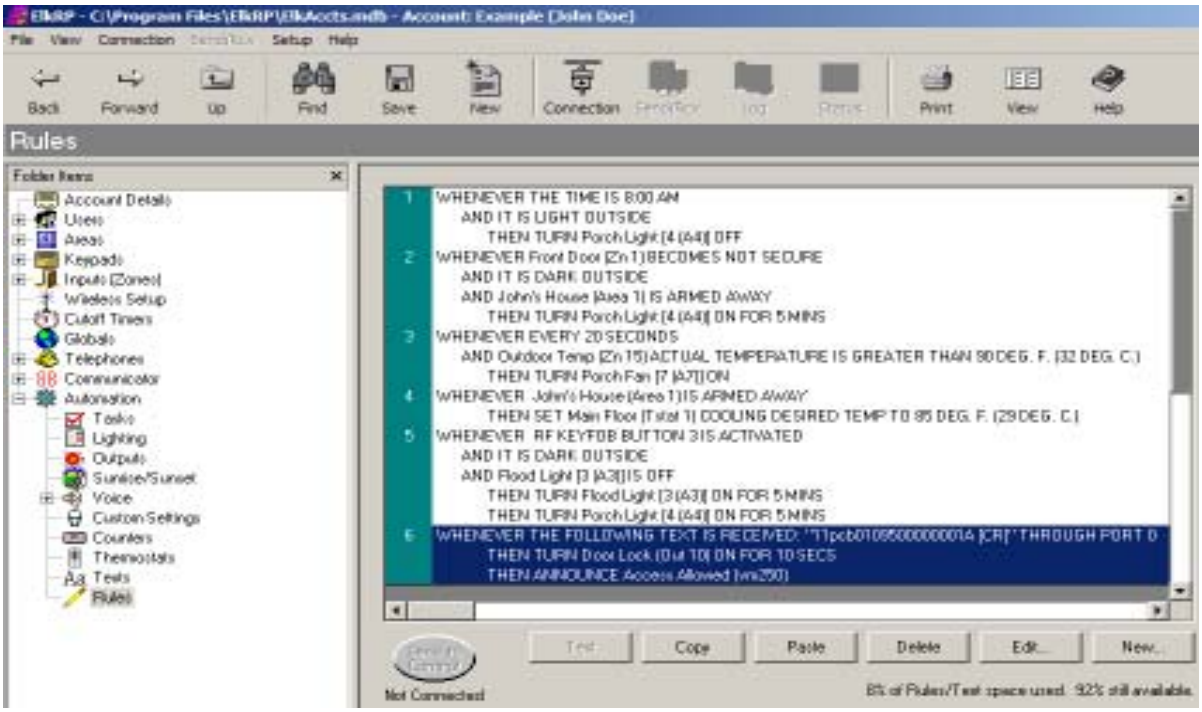


TEXTS - This section allows custom text messages to be constructed and formatted. These messages can be transmitted to an LCD keypad or out one of the RS232 serial ports to a PC or some other type of equipment. I.E. Touchscreen, Lighting centers, etc. A message to the keypad could be “Happy Birthday” or “Please Pay Your Bill”, while a message going out a serial port might be a series of ASCII characters formatted to a certain manufacturers protocol. Special options built into this menu include: automatic display of temperature readings from Zone Temperature Sensors (ELK-M1ZTS) and from the temperature sensor built into an LCD Keypad. The sending or receiving of text messages is controlled by the automation rules engine. **NOTE: Text messages share the same memory space as rules. The total number of text messages and rules is limited by the M1 model that you are installing.**



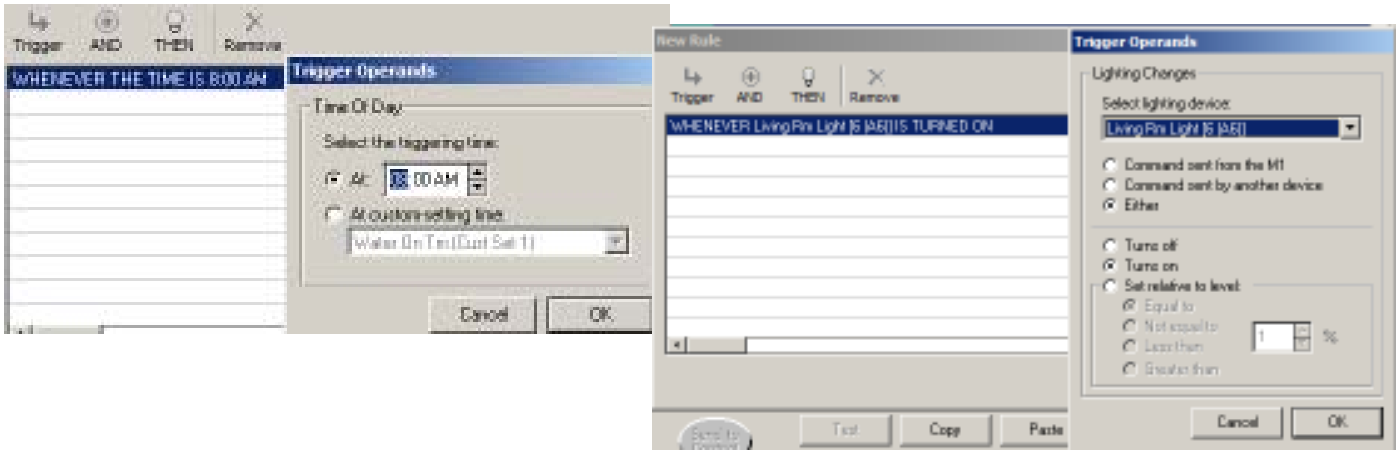
† Not evaluated by UL

RULES - This section essentially brings all the power of the control's automation and its features together. Rules consist of three major elements: A WHENEVER ("triggering") condition, one or more ANDs ("qualifiers"), and one or more THENs ("activations"). Rules utilize the various elements of the previously described sections in addition to the many control conditions (arm, disarm, alarms, etc.), plus many of the event codes listed in Appendix A. For example: A rule might be triggered by a Task to activate a specific light and output, but only if the control is armed in a specific mode.


Rules
WHENEVER THE TIME IS 8:00 AM
AND IT IS LIGHT OUTSIDE
THEN TURN Porch Light [4 (A4)] OFF
WHENEVER Front Door [Zn 1] BECOMES NOT SECURE
AND IT IS DARK OUTSIDE
AND John's House [Area 1] IS ARMED AWAY
THEN TURN Porch Light [4 (A4)] ON FOR 5 MINS
WHENEVER EVERY 20 SECONDS
AND Outdoor Temp [Zn 15] ACTUAL TEMPERATURE IS GREATER THAN 90 DEG. F. [32 DEG. C.]
THEN TURN Porch Fan [7 (A7)] ON
WHENEVER John's House [Area 1] IS ARMED AWAY
THEN SET Main Floor [Tstat 1] COOLING DESIRED TEMP TO 85 DEG. F. [29 DEG. C.]
WHENEVER RF KEYFOB BUTTON 3 IS ACTIVATED
AND IT IS DARK OUTSIDE
AND Flood Light [3 (A3)] IS OFF
THEN TURN Flood Light [3 (A3)] ON FOR 5 MINS
THEN TURN Porch Light [4 (A4)] ON FOR 5 MINS
WHENEVER THE FOLLOWING TEXT IS RECEIVED:
THEN TURN Door Lock [Out 10] ON FOR 10 SECS
THEN ANNOUNCE Access Allowed [vm 250]
Test
Copy
Paste
Delete
Edit...
New...
Not Connected

WHENEVER - The first element of a rule and the starting point of every rule is a triggering event. Every rule must have a triggering event in order to be started. A triggering event can be a time of day occurrence, a zone opening or closing, the security system going from armed to disarmed, a light changing from on to off, or literally hundreds of other events. Below are some examples of WHENEVER elements:

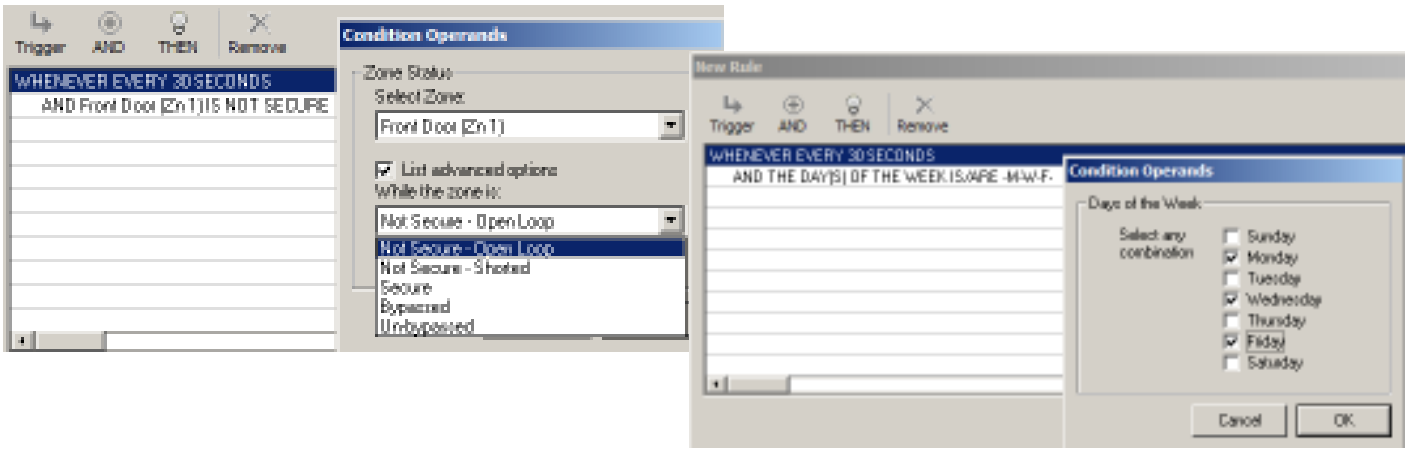
Example 1 = WHENEVER THE TIME IS 08:00AM
Example 2 = WHENEVER Living Rm Light [6 (A6)] IS TURNED ON



An important point to remember is that a WHENEVER gets triggered by the transition of its event from one state to another. In example 1, the trigger occurs when the time of day goes from 07:59AM to 08:00AM. In example 2, the trigger occurs when the living room light goes from off to on. Some WHENEVER elements may even include the word "BECOMES", which clearly implies that the event has to change from its current condition and "become" the alternate condition. Just remember, a rule can only be triggered by the transition of an event from one condition to another.

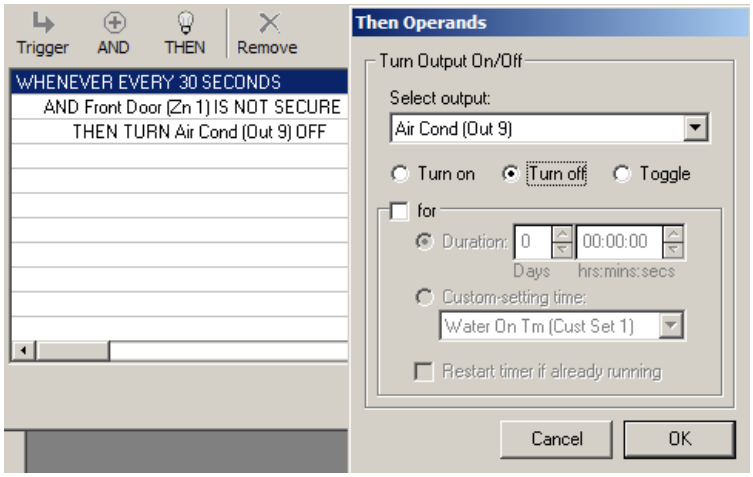
AND - The second and optional element of a rule is a qualifier. Rules can have one or more qualifiers OR none at all. Even though qualifiers are not required, they are ideal for filtering out actions that should not occur under certain circumstances. A qualifier can be a time, day(s), the state of light or dark, the state of a zone, output, or light, and hundreds of other variables. The state of light or dark can be determined by the Sunrise/Sunset settings from the M1's Astronomical Clock. Below are some examples of AND (qualifiers):

Example 3 = AND Front Door (Zn 1) IS NOT SECURE
Example 4 = AND THE DAY(S) OF THE WEEK IS/ARE -M-W-F-
Example 5 = AND IT IS DARK OUTSIDE
Example 6 = AND John's House (Area 1) IS ARMED AWAY



THEN - The third and final element of a rule is the action that you wish to occur as a result of the Rule being triggered and all the qualifiers being true. Below are some examples of THEN actions:

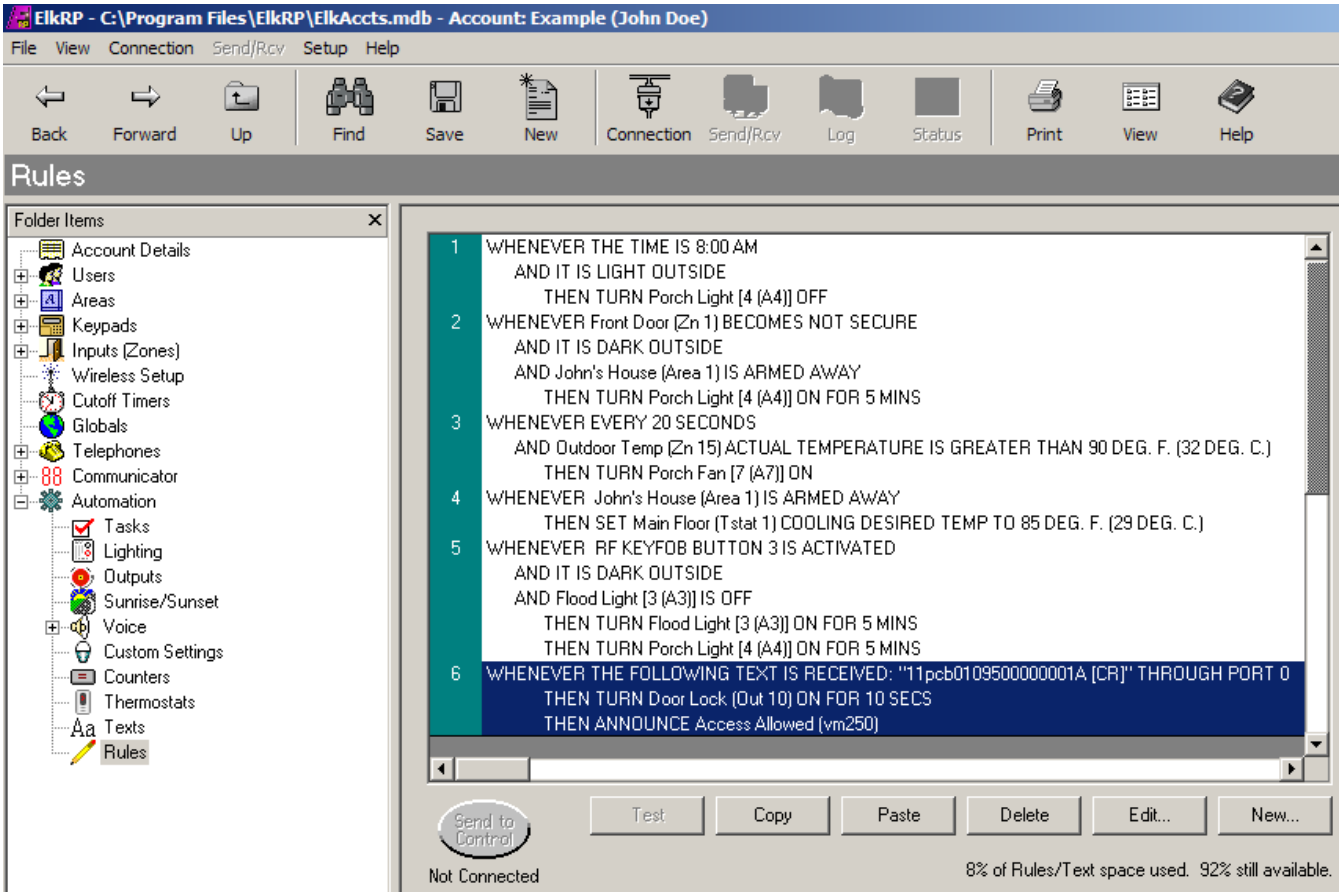
Example 7 = THEN TURN Air Cond (Out 9) OFF
Example 8 = THEN TURN Living Rm Light [6 A6)] OFF
Example 9 = THEN SET Main Floor (Tstat 1) OFF
Example 10 = THEN TURN All Lights On



Here is an example of a rule used to turn off the air condition anytime the front door is left open by the kids. It consists of a 30 second timer for the WHENEVER trigger an AND to test the door's open/closed state, and a THEN to turn off the output that controls the air condition.

WHENEVER EVERY 30 SECONDS
AND Front Door (Zn 1) IS NOT SECURE
THEN TURN Air Cond (Out 9) OFF

Examples of Rules - Shown below are a series of rules that should help illustrate the power and results that rules can provide. Look closely at the ones that have multiple ANDs and THENs. Rules with Multiple ANDs and THENS work as follows: When the WHENEVER element is triggered, each one of the AND elements is evaluated to determine if the condition its testing is true. If any one of the ANDs are not true, the rule engine stops executing the rule immediately. However, if all ANDs are true then the rule engine moves on to the THEN elements, executing each one of them.


ElkRP - C:\Program Files\ElkRP\ElkAccts.mdb - Account: Example (John Doe)
File View Connection Send/Rcv Setup Help
Back Forward Up Find Save New Connection Send/Rcv Log Status Print View Help
Rules
Folder Items
Account Details
Users
Areas
Keypads
Inputs (Zones)
Wireless Setup
Cutoff Timers
Globals
Telephones
Communicator
Automation
Tasks
Lighting
Outputs
Sunrise/Sunset
Voice
Custom Settings
Counters
Thermostats
Texts
Rules
1 WHENEVER THE TIME IS 8:00 AM
AND IT IS LIGHT OUTSIDE
THEN TURN Porch Light [4 (A4)] OFF
2 WHENEVER Front Door (Zn 1) BECOMES NOT SECURE
AND IT IS DARK OUTSIDE
AND John's House (Area 1) IS ARMED AWAY
THEN TURN Porch Light [4 (A4)] ON FOR 5 MINS
3 WHENEVER EVERY 20 SECONDS
AND Outdoor Temp (Zn 15) ACTUAL TEMPERATURE IS GREATER THAN 90 DEG. F. (32 DEG. C.)
THEN TURN Porch Fan [7 (A7)] ON
4 WHENEVER John's House (Area 1) IS ARMED AWAY
THEN SET Main Floor (Tstat 1) COOLING DESIRED TEMP TO 85 DEG. F. (29 DEG. C.)
5 WHENEVER RF KEYFOB BUTTON 3 IS ACTIVATED
AND IT IS DARK OUTSIDE
AND Flood Light [3 (A3)] IS OFF
THEN TURN Flood Light [3 (A3)] ON FOR 5 MINS
THEN TURN Porch Light [4 (A4)] ON FOR 5 MINS
6 WHENEVER THE FOLLOWING TEXT IS RECEIVED: "11pcb0109500000001A [CR]" THROUGH PORT 0
THEN TURN Door Lock (Out 10) ON FOR 10 SECS
THEN ANNOUNCE Access Allowed (vm250)
Send to Control
Not Connected
Test Copy Paste Delete Edit... New...
8% of Rules/Text space used. 92% still available.

Rule 1 is an energy saving example. It automatically turns off the Porch lights at 8:00AM everyday if it is light outside.

Rule 2 is a courtesy light example. It will turn on the Porch light for 5 minutes when the Front door opens (exiting the building) provided it is dark outside and the control has been armed to the away mode.

Rule 3 is a comfort example. It periodically (every 20 seconds) checks the temperature reading of the Outdoor Temp sensor and turns on the Porch Fan if the temperature becomes greater than 90 degrees. **NOTE: An additional AND element could be added to prevent the fan from operating on certain days or at certain times.**

Rule 4 is another energy savings example. It adjusts the cooling setpoint of the Main Floor Thermostat to 85 degrees whenever the control is armed to the away mode.

Rule 5 is especially great for a homeowner arriving home after dark. If they are equipped with an RF (wireless) Keyfob and they press button #3, the rule will turn on the outside Flood lights and Porch lights for 5 minutes, provided it is dark outside and the Flood lights are not already on. If the Floodlights were already on the rule would stop. This prevents the lights from going off after 5 minutes if you intentionally had already turned them on manually.

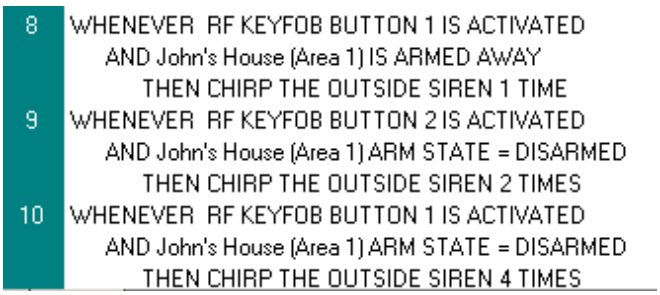
Rule 6 shows how an ASCII string coming in from the serial port (port 0) could be used to unlock a door strike for 10 seconds and announce “Access Allowed”. This string could come from Access Control system.

In this last example, three rules are used to chirp the outside siren based on the input of a RF Keyfob to arm the control.

Rule 8 makes the siren chirp once if the control successfully arms when the user presses button 1.

Rule 9 makes the siren chirp twice if the control disarms when the user presses button 2

Rule 10 makes the siren chirp four times (error tone) if the control fails to arm when the user presses button 1.


8 WHENEVER RF KEYFOB BUTTON 1 IS ACTIVATED
AND John's House (Area 1) IS ARMED AWAY
THEN CHIRP THE OUTSIDE SIREN 1 TIME
9 WHENEVER RF KEYFOB BUTTON 2 IS ACTIVATED
AND John's House (Area 1) ARM STATE = DISARMED
THEN CHIRP THE OUTSIDE SIREN 2 TIMES
10 WHENEVER RF KEYFOB BUTTON 1 IS ACTIVATED
AND John's House (Area 1) ARM STATE = DISARMED
THEN CHIRP THE OUTSIDE SIREN 4 TIMES

Appendix A - Event Codes

Event Codes are four digit numbers used to represent alarms, troubles, arm/disarms, restores, and various other conditions that occur within the control. For the most part, they are used only internally by the control's software. For example: turning on the alarm output. However, there are cases where the installer may need these codes. Case #1 - Keypad F key programming. Each of the Keypad F keys may be programmed to activate a particular condition such as Emergency Panic Alarm. See Menu 04 - Keypad Definitions. The activation event code can be any of the zone definition codes. The F1 key may also be programmed to light up or "illuminate" when a condition is active. The F1 key can illuminate when the Emergency Panic Alarm is active by programming the four digit event code 1009 = Emergency Alarm. Case #2 - Event History log. Each of the 512 entries in the event history log is represented by one of these 4 digits event codes, along with the time, date, area, and/or user code. It may be necessary or helpful to have these codes handy to fully interpret the log.

These 34 events are Zone Definitions shown here for convenience.

Event	Description	Reset
0000	No Event	N
0001	Burg Entry/Exit 1	
0002	Burg Entry/Exit 2	
0003	Burg Perimeter Instant	
0004	Burglar Interior	
0005	Burg Interior Follower	
0006	Burglar Interior Nite	
0007	Burg Int Nite Delay	
0008	Burglar 24 hour	
0009	Burg 24hr Box Tamper	
0010	Fire 24 hour	
0011	Fire 24 hour Verified	
0012	Fire 24 hour Supervisory	
0013	Auxiliary1 24 hour	
0014	Auxiliary2 24 hour	
0015	Keyfob	
0016	Non Alarm	
0017	Carbon Monoxide 24 hour	
0018	Emergency 24 hour	
0019	Freeze Alarm 24 hour	
0020	Gas Alarm 24 hour	
0021	Heat Alarm 24 hour	
0022	Medical Alarm 24 hour	
0023	Police Alarm 24 hr w/indication	
0024	Police Alarm 24 hr no indication	
0025	Water Alarm 24 hour	
0026	Keyswitch Momentary	
0027	Keyswitch Mom't - Away Mode	
0028	Keyswitch Mom't - Stay Mode	
0029	Keyswitch Mom't - Disarm Only	
0030	Keyswitch On/Off	
0031	Mute All Area Audibles	
0032	Power Supervisory 24 hour	
0033	Temperature 24 hour	
0034	Analog 24 hour	

Event	Description	Reset
1000	No Event	N
1001	Fire Alarm	TMC
1002	Fire Supervisory	TMC
1003	Burglar Alarm, Any Area	TMCB
1004	Medical Alarm, Any Area	TMC
1005	Police Alarm, Any Area	TMC
1006	Aux1 24 hr, Any Area	TMC
1007	Aux2 24 hr, Any Area	TMC
1008	CO Alarm, Any Area	TMC
1009	Emergency Alm, Any Area	TMC
1010	Freeze Alarm, Any Area	TMC
1011	Gas Alarm, Any Area	TMC
1012	Heat Alarm, Any Area	TMC
1013	Water Alarm, Any Area	TMC
1014	Alarm, Any Area	TMC
1015	Burglar Alarm in Area 1	TMC
1016	Burglar Alarm in Area 2	TMC
1017	Burglar Alarm in Area 3	TMC
1018	Burglar Alarm in Area 4	TMC
1019	Burglar Alarm in Area 5	TMC
1020	Burglar Alarm in Area 6	TMC
1021	Burglar Alarm in Area 7	TMC
1022	Burglar Alarm in Area 8	TMC
1023	Medical Alarm in Area 1	TMC
1024	Medical Alarm in Area 2	TMC
1025	Medical Alarm in Area 3	TMC
1026	Medical Alarm in Area 4	TMC
1027	Medical Alarm in Area 5	TMC
1028	Medical Alarm in Area 6	TMC
1029	Medical Alarm in Area 7	TMC
1030	Medical Alarm in Area 8	TMC
1031	Police Alarm in Area 1	TMC
1032	Police Alarm in Area 2	TMC
1033	Police Alarm in Area 3	TMC
1034	Police Alarm in Area 4	TMC
1035	Police Alarm in Area 5	TMC
1036	Police Alarm in Area 6	TMC
1037	Police Alarm in Area 7	TMC
1038	Police Alarm in Area 8	TMC
1039	Aux1 24 hr in Area 1	TMC
1040	Aux1 24 hr in Area 2	TMC
1041	Aux1 24 hr in Area 3	TMC
1042	Aux1 24 hr in Area 4	TMC
1043	Aux1 24 hr in Area 5	TMC
1044	Aux1 24 hr in Area 6	TMC
1045	Aux1 24 hr in Area 7	TMC
1046	Aux1 24 hr in Area 8	TMC
1047	Aux2 24 hr in Area 1	TMC
1048	Aux2 24 hr in Area 2	TMC
1049	Aux2 24 hr in Area 3	TMC
1050	Aux2 24 hr in Area 4	TMC
1051	Aux2 24 hr in Area 5	TMC
1052	Aux2 24 hr in Area 6	TMC
1053	Aux2 24 hr in Area 7	TMC
1054	Aux2 24 hr in Area 8	TMC
1055	CO Alarm in Area 1	TMC
1056	CO Alarm in Area 2	TMC
1057	CO Alarm in Area 3	TMC
1058	CO Alarm in Area 4	TMC
1059	CO Alarm in Area 5	TMC
1060	CO Alarm in Area 6	TMC
1061	CO Alarm in Area 7	TMC
1062	CO Alarm in Area 8	TMC
1063	Emergency Alm in Area 1	TMC
1064	Emergency Alm in Area 2	TMC
1065	Emergency Alm in Area 3	TMC
1066	Emergency Alm in Area 4	TMC
1067	Emergency Alm in Area 5	TMC
1068	Emergency Alm in Area 6	TMC
1069	Emergency Alm in Area 7	TMC
1070	Emergency Alm in Area 8	TMC
1071	Freeze Alarm in Area 1	TMC
1072	Freeze Alarm in Area 2	TMC
1073	Freeze Alarm in Area 3	TMC
1074	Freeze Alarm in Area 4	TMC
1075	Freeze Alarm in Area 5	TMC
1076	Freeze Alarm in Area 6	TMC
1077	Freeze Alarm in Area 7	TMC
1078	Freeze Alarm in Area 8	TMC
1079	Gas Alarm in Area 1	TMC
1080	Gas Alarm in Area 2	TMC
1081	Gas Alarm in Area 3	TMC
1082	Gas Alarm in Area 4	TMC
1083	Gas Alarm in Area 5	TMC
1084	Gas Alarm in Area 6	TMC
1085	Gas Alarm in Area 7	TMC
1086	Gas Alarm in Area 8	TMC
1087	Heat Alarm in Area 1	TMC
1088	Heat Alarm in Area 2	TMC
1089	Heat Alarm in Area 3	TMC
1090	Heat Alarm in Area 4	TMC
1091	Heat Alarm in Area 5	TMC
1092	Heat Alarm in Area 6	TMC
1093	Heat Alarm in Area 7	TMC
1094	Heat Alarm in Area 8	TMC
1095	Water Alarm in Area 1	TMC
1096	Water Alarm in Area 2	TMC
1097	Water Alarm in Area 3	TMC
1098	Water Alarm in Area 4	TMC
1099	Water Alarm in Area 5	TMC
1100	Water Alarm in Area 6	TMC
1101	Water Alarm in Area 7	TMC
1102	Water Alarm in Area 8	TMC
1103	Any Alarm in Area 1	TMC
1104	Any Alarm in Area 2	TMC
1105	Any Alarm in Area 3	TMC
1106	Any Alarm in Area 4	TMC
1107	Any Alarm in Area 5	TMC
1108	Any Alarm in Area 6	TMC
1109	Any Alarm in Area 7	TMC
1110	Any Alarm in Area 8	TMC
1111	Any Keypad Code-Lockout	N
1112	Keypad 01 Code-Lockout	N
1113	Keypad 02 Code-Lockout	N
1114	Keypad 03 Code-Lockout	N
1115	Keypad 04 Code-Lockout	N
1116	Keypad 05 Code-Lockout	N
1117	Keypad 06 Code-Lockout	N
1118	Keypad 07 Code-Lockout	N
1119	Keypad 08 Code-Lockout	N
1120	Keypad 09 Code-Lockout	N
1121	Keypad 10 Code-Lockout	N
1122	Keypad 11 Code-Lockout	N
1123	Keypad 12 Code-Lockout	N
1124	Keypad 13 Code-Lockout	N
1125	Keypad 14 Code-Lockout	N
1126	Keypad 15 Code-Lockout	N
1127	Keypad 16 Code-Lockout	N
1128	Fire Trouble, Any Zone	TMC
1129	Burglar Trouble, Any Zone	TMC
1130	Fail to Communicate Tbl	N
1131	RF Sensor Low Battery Tbl	N
1132	RF Jamming Trouble	N
1133	Lost Keypad Trouble	N
1134	Lost Input Expander Tbl	N
1135	Lost Output Expander Tbl	N
1136	EEprom Memory Error Tbl	C
1137	Flash Memory Error Trouble	C
1138	AC Failure Trouble	N
1139	Control Low Battery Trouble	N
1140	Control Over Current Trouble	N
1141	Expansion Module Trouble	N
1142	Output 2 Supervisory Tbl	N
1143	Telephone Line Fault Tbl	
1144	Restore Fire Zone	B
1145	Restore Fire Supv Zone	B
1146	Restore Burglar Zone	B
1147	Restore Medical Zone	B
1148	Restore Police Zone	B
1149	Restore Aux1 24 hr Zone	B
1150	Restore Aux2 24 hr Zone	B
1151	Restore CO Zone	B
1152	Restore Emergency Zone	B
1153	Restore Freezer Zone	B
1154	Restore Gas Zone	B
1155	Restore Heat Zone	B
1156	Restore Water Zone	B
1157	Communication Fail Restore	B
1158	AC Fail Restore	B
1159	Low Battery Restore	B
1160	Control Over Current Restore	B
1161	Expansion Module Restore	B
1162	Output 2 Restore	B
1163	Telephone Line Restore	B
1164	Alarm Memory	A
1165	Alarm Memory in Area 1	TMC
1166	Alarm Memory in Area 2	TMC
1167	Alarm Memory in Area 3	TMC
1168	Alarm Memory in Area 4	TMC
1169	Alarm Memory in Area 5	TMC
1170	Alarm Memory in Area 6	TMC
1171	Alarm Memory in Area 7	TMC
1172	Alarm Memory in Area 8	TMC
1173	Area Armed	N
1174	Area Disarmed	N
1175	Area 1 Arm State	N
1176	Area 2 Arm State	N
1177	Area 3 Arm State	N
1178	Area 4 Arm State	N
1179	Area 5 Arm State	N
1180	Area 6 Arm State	N
1181	Area 7 Arm State	N
1182	Area 8 Arm State	N
1183	Area 1 is Armed Away	N
1184	Area 2 is Armed Away	N
1185	Area 3 is Armed Away	N
1186	Area 4 is Armed Away	N
1187	Area 5 is Armed Away	N
1188	Area 6 is Armed Away	N
1189	Area 7 is Armed Away	N
1190	Area 8 is Armed Away	N
1191	Area 1 is Armed Stay	N
1192	Area 2 is Armed Stay	N
1193	Area 3 is Armed Stay	N
1194	Area 4 is Armed Stay	N
1195	Area 5 is Armed Stay	N
1196	Area 6 is Armed Stay	N
1197	Area 7 is Armed Stay	N
1198	Area 8 is Armed Stay	N
1199	Area 1 is Armed Stay Instant	N
1200	Area 2 is Armed Stay Instant	N
1201	Area 3 is Armed Stay Instant	N
1202	Area 4 is Armed Stay Instant	N
1203	Area 5 is Armed Stay Instant	N
1204	Area 6 is Armed Stay Instant	N
1205	Area 7 is Armed Stay Instant	N
1206	Area 8 is Armed Stay Instant	N
1207	Area 1 is Armed Night	N
1208	Area 2 is Armed Night	N
1209	Area 3 is Armed Night	N
1210	Area 4 is Armed Night	N
1211	Area 5 is Armed Night	N
1212	Area 6 is Armed Night	N
1213	Area 7 is Armed Night	N
1214	Area 8 is Armed Night	N
1215	Area 1 is Armed Night Instant	N
1216	Area 2 is Armed Night Instant	N
1217	Area 3 is Armed Night Instant	N
1218	Area 4 is Armed Night Instant	N
1219	Area 5 is Armed Night Instant	N
1220	Area 6 is Armed Night Instant	N
1221	Area 7 is Armed Night Instant	N
1222	Area 8 is Armed Night Instant	N

Appendix A - Event Codes (cont.)

Event	Description	Reset
1223	= Area 1 is Armed Vacation	N
1224	= Area 2 is Armed Vacation	N
1225	= Area 3 is Armed Vacation	N
1226	= Area 4 is Armed Vacation	N
1227	= Area 5 is Armed Vacation	N
1228	= Area 6 is Armed Vacation	N
1229	= Area 7 is Armed Vacation	N
1230	= Area 8 is Armed Vacation	N
1231	= Area 1 is Force Armed	N
1232	= Area 2 is Force Armed	N
1233	= Area 3 is Force Armed	N
1234	= Area 4 is Force Armed	N
1235	= Area 5 is Force Armed	N
1236	= Area 6 is Force Armed	N
1237	= Area 7 is Force Armed	N
1238	= Area 8 is Force Armed	N
1239	= Zone Bypassed	N
1240	= All Zones Unbypassed	B
1241	= Burglar Zone Fault	N
1242	= Burglar Status	N
1243	= Area 1 Burglar Status	N
1244	= Area 2 Burglar Status	N
1245	= Area 3 Burglar Status	N
1246	= Area 4 Burglar Status	N
1247	= Area 5 Burglar Status	N
1248	= Area 6 Burglar Status	N
1249	= Area 7 Burglar Status	N
1250	= Area 8 Burglar Status	N
1251	= Area 1 Chime Mode	N
1252	= Area 2 Chime Mode	N
1253	= Area 3 Chime Mode	N
1254	= Area 4 Chime Mode	N
1255	= Area 5 Chime Mode	N
1256	= Area 6 Chime Mode	N
1257	= Area 7 Chime Mode	N
1258	= Area 8 Chime Mode	N
1259	= Area 1 Chime Alert	B
1260	= Area 2 Chime Alert	B
1261	= Area 3 Chime Alert	B
1262	= Area 4 Chime Alert	B
1263	= Area 5 Chime Alert	B
1264	= Area 6 Chime Alert	B
1265	= Area 7 Chime Alert	B
1266	= Area 8 Chime Alert	B
1267	= Entry Delay Active	N
1268	= Area 1 Entry Delay	N
1269	= Area 2 Entry Delay	N
1270	= Area 3 Entry Delay	N
1271	= Area 4 Entry Delay	N
1272	= Area 5 Entry Delay	N
1273	= Area 6 Entry Delay	N
1274	= Area 7 Entry Delay	N
1275	= Area 8 Entry Delay	N
1276	= Exit Delay Active	N
1277	= Area 1 Exit Delay	N
1278	= Area 2 Exit Delay	N
1279	= Area 3 Exit Delay	N
1280	= Area 4 Exit Delay	N
1281	= Area 5 Exit Delay	N
1282	= Area 6 Exit Delay	N
1283	= Area 7 Exit Delay	N
1284	= Area 8 Exit Delay	N
1285	- Area 1 Exit Delay Expires	N
1286	- Area 2 Exit Delay Expires	N
1287	- Area 3 Exit Delay Expires	N
1288	- Area 4 Exit Delay Expires	N
1289	- Area 5 Exit Delay Expires	N
1290	- Area 6 Exit Delay Expires	N
1291	- Area 7 Exit Delay Expires	N
1292	- Area 8 Exit Delay Expires	N
1293	= Automatic Closing	B
1294	= Early Closing	B
1295	= Closing Time Extended	B
1296	= Fail to Close	B
1297	= Late to Close	B
1298	= Keyswitch Closing	B
1299	= Duress	B
1300	= Exception Opening	B
1301	= Early Opening	B
1302	= Fail to Open	B
1303	= Late to Open	B
1304	= Keyswitch Opening	B
1305	= Area 1 Closing Ring Back	B
1306	= Area 2 Closing Ring Back	B
1307	= Area 3 Closing Ring Back	B
1308	= Area 4 Closing Ring Back	B
1309	= Area 5 Closing Ring Back	B
1310	= Area 6 Closing Ring Back	B
1311	= Area 7 Closing Ring Back	B
1312	= Area 8 Closing Ring Back	B
1313	= Access Keypad 1	TM
1314	= Access Keypad 2	TM
1315	= Access Keypad 3	TM
1316	= Access Keypad 4	TM
1317	= Access Keypad 5	TM
1318	= Access Keypad 6	TM
1319	= Access Keypad 7	TM
1320	= Access Keypad 8	TM
1321	= Access Keypad 9	TM
1322	= Access Keypad 10	TM
1323	= Access Keypad 11	TM
1324	= Access Keypad 12	TM
1325	= Access Keypad 13	TM
1326	= Access Keypad 14	TM
1327	= Access Keypad 15	TM
1328	= Access Keypad 16	TM
1329	= Access, Any Keypad	TM
1330	= Keypad Beep Area 1	N
1331	= Keypad Beep Area 2	N
1332	= Keypad Beep Area 3	N
1333	= Keypad Beep Area 4	N
1334	= Keypad Beep Area 5	N
1335	= Keypad Beep Area 6	N
1336	= Keypad Beep Area 7	N
1337	= Keypad Beep Area 8	N
1338	= Area 1 Exit Error	N
1339	= Area 2 Exit Error	N
1340	= Area 3 Exit Error	N
1341	= Area 4 Exit Error	N
1342	= Area 5 Exit Error	N
1343	= Area 6 Exit Error	N
1344	= Area 7 Exit Error	N
1345	= Area 8 Exit Error	N
1346	= Audio Amplifier Status	TMC
1347	= Control Power Status	N
1348	= Light	N
1349	= Dark	N
1350	= Security (Day) Alert	TMC
1351	= Dialer Abort	B
1352	= Dialer Cancel	B
1353	= Dialer Auto Test	B
1354	= Local Programming Begin	N
1355	= Local Programming End	B
1356	= Keyswitch Security Alert	TMC
1357	= Event Log is 80% Full	N
1358	= Telephone Line Is Ringing	B
1359	= Telephone Line Seized Status	T
1360	= Telephone Line Hook Status	T
1361	= Telephone Local Access	T
1362	= Telephone Remote Access	T
1363	= Remote Programming Start	N
1364	= Remote Programming Stop	B
1365	= AC Fail Tbl - Power Supv Zn	N
1366	= Low Batt Tbl - Pwr Supv Zn	N
1367	= System Start Up	B
1368	= Control Low Volt Shutdown	N
1369	= RF Keyfob Button 1	B
1370	= RF Keyfob Button 2	B
1371	= RF Keyfob Button 3	B
1372	= RF Keyfob Button 4	B
1373	= RF Keyfob Button 5	B
1374	= RF Keyfob Button 6	B
1375	= RF Keyfob Button 7	B
1376	= RF Keyfob Button 8	B
1377	= Lost Serial Port Exp Tbl	N
1378	= Rule Triggered Voice Dial	B
1379	= Dialer Report Cleared	B
1380	= Central Station Kissoff	B
1381	= Transmitter Supervision Loss	N
1382	= Smoke Detector Clean Me	
1383	= Ethernet Trouble	
1384	= Ethernet Restore	
1385	= AC Restore - Pwr Supv Zn	
1386	= Low Batt Rest - Pwr Sup Zn	
1387 to 2000	= No Event/Not Used	
2001	= Automation Control 1	TF
~		
2032	= Automation Control 32	TF
2033 to 3000	= No Event/Not Used	N
3001	= F1 Key on Keypad 1	F
3002	= F2 Key on Keypad 1	F
3003	= F3 Key on Keypad 1	F
3004	= F4 Key on Keypad 1	F
3005	= F5 Key on Keypad 1	F
3006	= F6 Key on Keypad 1	F
3007 to 3012	= F1 to F6 on KP 2	F
3013 to 3018	= F1 to F6 on KP 3	F
3019 to 3024	= F1 to F6 on KP 4	F
3025 to 3030	= F1 to F6 on KP 5	F
3031 to 3036	= F1 to F6 on KP 6	F
3037 to 3042	= F1 to F6 on KP 7	F
3043 to 3048	= F1 to F6 on KP 8	F
3049 to 3054	= F1 to F6 on KP 9	F
3055 to 3060	= F1 to F6 on KP 10	F
3061 to 3066	= F1 to F6 on KP 11	F
3067 to 3072	= F1 to F6 on KP 12	F
3073 to 3078	= F1 to F6 on KP 13	F
3079 to 3084	= F1 to F6 on KP 14	F
3085 to 3090	= F1 to F6 on KP 15	F
3091 to 3096	= F1 to F6 on KP 16	F
3097	= F1 Key, Any KP Is Pressed	B
3098	= F2 Key, Any KP Is Pressed	B
3099	= F3 Key, Any KP Is Pressed	B
3100	= F4 Key, Any KP Is Pressed	B
3101	= F5 Key, Any KP Is Pressed	B
3102	= F6 Key, Any KP Is Pressed	B
3103	= Any KP Key Is Pressed	F
3104 to 4000	= No Event	
4001 to 4208	= Zone State 1 to 208	T
4209 to 5000	= No Event	
5001 to 5208	= Bypass State 1 to 208	T
5209 to 6000	= No Event	
6001 to 6208	= Alm Memory 1 to 208	T
6209 to 7000	= No Event	
7001 to 7208	= Output State 1 to 208	N
7209 to 8000	= No Event	
8001 thru 9999	= No Event	

"Reset" Attribute

The letter(s) displayed in Reset column indicate what condition(s) it takes to clear an event once it has been activated.

For example: the letters TMC indicate the event will reset when the output timer ends, or when manually turned off, or when a valid user code is entered, whichever comes first.

NOTE:

The reset attributes are shown only for informational purposes. They are set by the factory and cannot be altered.

- N (0) Event follows the activation
- T (1) Event clears when output timer ends
- M (2) Event clears when manually turned off
- C (4) Event clears upon User Code entry
- A (16) Event clears upon Arming
- D (32) Event clears upon Disarming
- B (64) Event clears almost immediately "Blip"
- F (128) Event toggles with each activation

Appendix B - Telephone Remote Control †

There are two methods of entry:

Operation from an Inside Telephone:

1. Lift the telephone and listen for dial tone.
2. Press * * * to alert the control. (To hear over the inside speakers press * 0 * instead.)
   The control will pick, disconnect the phone line and dial tone, and announce: "Please enter security code".
3. Enter a valid user code. If code is correct the control should announce: "Access Authorized".
4. Enter a menu selection OR press 0 to hear the entire menu.

Operating from an Outside Telephone:

1. Dial-in to the phone number attached to the control.
   After a programmed number of rings the control should answer with four short beeps. If an answering machine picks up, wait for the message to quit and proceed as follows:
2. Press * * * to alert the control. The control will announce: "Please enter security code".
3. Enter a valid user code. If code is correct the control should pickup announce: "Access Authorized".
4. Enter a menu selection OR press 0 to hear the entire menu.

Menu Selections: Main menu options are underlined.

For Help - press 0. A voice message will explain the function of each key.

For Arm Status - press 1. A voice message will identify whether the system is currently armed or disarmed and will allow the state to be changed. There are two options:

If Disarmed - Press 1 for list of Arming options. There are 6 options:
- Press 1 for Away mode.
- Press 2 for Stay mode.
- Press 3 for Stay Instant mode.
- Press 4 for Armed Night mode.
- Press 5 for Armed Night Instant mode.
- Press 6 for Vacation mode.

If Armed – Press 2 to disarm.

For Automation Control - press 2. A voice message will prompting you to select one of the following automation options:

For Automation Task - press 1. Tasks are like computer macros. They can be programmed and named using the RP software and are used to perform a chain or series of events upon activation. Upon entry into this menu, any task which was designated to "Show" will be announced by name and by number. To choose a task, enter its number. For fastest operation, add a 0 in front of single digit numbers. I.E. for a 3 enter 03. NOTE: Any valid task can be selected by entering it's two digit number, even if it was not announced. The task name will then be repeated along with the prompt: **To Activate - press #**. This should cause the events to activate.

For Light Control - press 2. This menu allows direct control any light device and can even be used for PLC appliance modules. Lights are programmed and named using RP software. Upon entry into this menu, any light which was designated to "Show" will be announced by name and number. To choose a light, enter it's three digit number. For fastest operation, add 0's in front of numbers less than three digits. NOTE: Any valid light can be selected by entering it's three digit number, even if it was not announced. The light name will then be repeated along with it's current status (On/Off) and the prompt: **To Change - press #**. The light should change state.

For Output Control - press 3. This menu allows direct control any valid output on the control. Outputs are programmed and named using RP software. Upon entry into this menu, any output which was designated to "Show" will be announced by name and number. To choose an output, enter it's three digit number. For fastest operation, add 0's in front of numbers less than three digits. NOTE: Any valid output can be selected by entering it's three digit number, even if it was not announced. The output name will then be repeated along with it's current status (On/Off) and the prompt: **To Change - press #**. The output should change state.

For Sensor Temperature - press 4. Temperature sensors can be connected to the first 16 zones on the control. This menu allows you to hear the current temperature of any valid sensor. Upon entry into this menu, any sensor programmed designated to "Show" by the RP software will be announced by number. To choose a sensor, enter it's two digit number. Add 0's in front of numbers single digits. NOTE: Any valid sensor can be selected by entering it's two digit number, even if it was not announced. The sensor number will then be repeated along with it's current reading.

† Not evaluated by UL

Appendix B - Telephone Remote Control (cont.)

Automation Menu continued

For Keypad Temperature - press 5. Certain models of keypads have a built-in temperature sensor. This menu allows you to hear the current temperature of any valid keypad sensor. Upon entry into this menu, any keypad sensor designated to "Show" by the RP software will be announced by number. To choose a keypad sensor, enter it's two digit number. Add 0's in front of numbers single digits. NOTE: Any valid keypad sensor can be selected by entering it's two digit number, even if it was not announced. The keypad sensor number will then be repeated along with it's current reading.

For Thermostat Temperature - press 6. Specific brands of HVAC thermostats can be connected to the control. This menu allows you to hear the current temperature of any valid thermostat. Upon entry into this menu, any thermostat designated to "Show" by the RP software will be announced by number. To choose a thermostat, enter it's two digit number. Add 0's in front of numbers single digits. NOTE: Any valid thermostat can be selected by entering it's two digit number, even if it was not announced. The thermostat number will then be repeated along with it's current reading.

For Trouble Status press 3. Upon entry into this menu, any current system troubles will be announced by name. This will deliver a voice message stating that system is normal or the first system trouble that is present. Options: Each time 3 is pressed the next system trouble is identified.

For Zone Status press 4. Upon entry into this menu, any current zone troubles will be announced by name. This will deliver a voice message stating either that "no zones violated" or "zone xx violated". Additional presses of the 4 key will announce additional troubled zones, if any exist.

For Audio Monitor press 7. This only works if a 2 way listen-in interface is installed. (ELK-M1TWI) It will open an audio path from the phone to the listen-in board and the output 1 speakers. For full operating instructions see Appendix D.

To exit and hang-up press 9. This will deliver the good-bye voice message. The telephone remote control operation has ending.

To hear menu options press 0. This will deliver a voice message explaining the function of each key.

* NOTE: If no response or key presses are heard by the control, the item or menu will be repeated once again. If no key presses are received within a 30 second time frame the message "Hanging Up, Good-bye" will be heard and the control will then disconnect.

WHAT HAPPENS IF THE PHONE LINE IS BUSY?
If the dialer is in use (such as during an alarm message report) then no dial tone will be heard and the offhook sequence will be ignored. The best thing to do at that point is to try again later (when the dialer is free) or hold onto the phone and wait till dialer hangs up. When the phone line is released (idle) dial tone will again be heard and you can then enter the offhook sequence.

WHAT HAPPENS IF AN ALARM OCCURS?
If the control is programmed to communicate alarms to a central monitoring station, it will automatically pick up the phone line and disconnect all calls when an alarm occurs. During this time period the telephone remote control will be inoperable. However, the installer may elect to program a communicator delay before dial time which would permit the telephone remote to function for a short time period immediately after an alarm. During this time it would be possible to enter the offhook sequence of * * * and enter all the proper codes to disarm and/silence the alarm.

Appendix C - Voice Message Vocabulary *RP only *

Word or Phrase

{Blank} = 0
Zero = 21
One = 22
Two = 23
Three = 24
Four = 25
Five = 26
Six = 27
Seven = 28
Eight = 29
Nine = 30
Ten = 31
Eleven = 32
Twelve = 33
Thirteen = 34
Fourteen = 35
Fifteen = 36
Sixteen = 37
Seventeen = 38
Eighteen = 39
Nineteen = 40
Twenty = 41
Thirty = 42
Forty = 43
Fifty = 44
Sixty = 45
Seventy = 46
Eighty = 47
Ninety = 48
Hundred = 49
Thousand = 50
[200ms Silence] = 51
[500ms Silence] = 52
[800hz Tone] = 53

A

A = 54
Access = 55
Acknowledged = 56
AC power = 57
Activate = 58
Activated = 59
Active = 60
Adjust = 61
Air = 62
Alarm = 63
Alert = 64
All = 65
AM = 66
An = 67
And = 68
Answer = 69
Any = 70
Are = 71
Area = 72
Arm = 73
Armed = 74
At = 75
Attic = 76
Audio = 77
Auto = 78
Authorized = 79
Automatic = 80
Automation = 81
Auxiliary = 82
Away = 83

Word or Phrase

B

B = 84
Back = 85
Barn = 86
Basement = 87
Bathroom = 88
Battery = 89
Bedroom = 90
Been = 91
Bell = 92
Bottom = 93
Break = 94
Breakfast = 95
Bright = 96
Building = 97
Burglar = 98
Button = 99
By = 100
Bypassed = 101

C

Cabinet = 102
Call = 103
Camera = 104
Cancel = 105
Carbon monoxide = 106
Card = 107
Center = 108
Central = 109
Change = 110
Check = 111
Chime = 112
Circuit = 113
Clear = 114
Closed = 115
Closet = 116
Code = 117
Cold = 118
Condition = 119
Connect = 120
Control = 121
Cool = 122
Cooling = 123
Corner = 124
Crawlspace = 125

D

Danger = 126
Day = 127
Deck = 128
Decrease = 129
Defective = 130
Degrees = 131
Delay = 132
Den = 133
Denied = 134
Detected = 135
Detector = 136
Device = 137
Dial = 138
Dialing = 139
Dim = 140
Dining room = 141
Disable = 142
Disarm = 143
Disarmed = 144
Dock = 145
Door = 146

Word or Phrase

Doors = 147
Down = 148
Driveway = 149

E

East = 150
Emergency = 151
Enable = 152
End = 153
Energy = 154
Enrollment = 155
Enter = 156
Entering = 157
Entertainment = 158
Enter the = 159
Entry = 160
Environment = 161
Equipment = 162
Error = 163
Evacuate = 164
Event = 165
Exercise = 166
Expander = 167
Exit = 168
Exterior = 169

F

F = 170
Fail = 171
Failure = 172
Family room = 173
Fan = 174
Feed = 175
Fence = 176
Fire = 177
First = 178
Flood = 179
Floor = 180
Followed = 181
Force = 182
Fountain = 183
Foyer = 184
Freeze = 185
Front = 186
Full = 187
Furnace = 188
Fuse = 189

G

Game = 190
Garage = 191
Gas = 192
Gate = 193
Glass = 194
Go = 195
Good = 196
Good-bye = 197
Great = 198
Group = 199
Guest = 200
Gun = 201

H

Hall = 202
Hallway = 203
Hanging up = 204
Hang up = 205
Has = 206

Word or Phrase

Has Expired = 207
Have = 208
Hear menu options = 209
Heat = 210
Help = 211
High = 212
Hold = 213
Home = 214
Hot = 215
Hot tub = 216
House = 217
Humidity = 218
HVAC = 219

I

If = 220
Immediately = 221
In = 222
Inches = 223
Increase = 224
Inner = 225
Input = 226
Inside = 227
Instant = 228
Interior = 229
In The = 230
Intruder = 231
Intrusion = 232
Invalid = 233
Is = 234
Is about to expire = 235
Is active = 236
Is armed = 237
Is canceled = 238
Is closed = 239
Is disarmed = 240
Is low = 241
Is off = 242
Is OK = 243
Is on = 244
Is open = 245

J

Jacuzzi = 246
Jewelry = 247

K

Keep = 248
Key = 249
Keypad = 250
Kitchen = 251

L

Lamp = 252
Laundry = 253
Lawn = 254
Leak = 255
Leave = 256
Left = 257
Less = 258
Level = 259
Library = 260
Light = 261
Lights = 262
Line = 263
Living room = 264
Loading = 265
Lobby = 266

Appendix C - Voice Message Vocabulary (cont.)

Word or Phrase

Location = 267
Lock = 268
Low = 269
Lower = 270

M

M = 271
Machine = 272
Mail = 273
Main = 274
Mains = 275
Manual = 276
Master = 277
Max = 278
Media = 279
Medical = 280
Medicine = 281
Memory = 282
Menu = 283
Message = 284
Middle = 285
Minute = 286
Missing = 287
Mode = 288
Module = 289
Monitor = 290
More = 291
Motion = 292
Motor = 293

N

Next = 294
Night = 295
No = 296
Normal = 297
North = 298
Not = 299
Notified = 300
Now = 301
Number = 302
Nursery = 303

O

Of = 304
Off = 305
Office = 306
Oh = 307
OK = 308
On = 309
On-line = 310
Only = 311
Open = 312
Operating = 313
Option = 314
Or = 315
Other = 316
Out = 317
Outlet = 318
Output = 319
Outside = 320
Over = 321
Overhead = 322

P

Panel = 323
Panic = 324
Parking = 325
Partition = 326

Word or Phrase

Patio = 327
Pause = 328
Perimeter = 329
Personal = 330
Phone = 331
Place = 332
Play = 333
Please = 334
Plus = 335
PM = 336
Police = 337
Pool = 338
Porch = 339
Port = 340
Pound = 341
Pounds = 342
Power = 343
Press = 344
Pressure = 345
Problem = 346
Program = 347
Protected = 348
Pump = 349

R

Radio = 350
Raise = 351
Ready = 352
Rear = 353
Receiver = 354
Record = 355
Recreation = 356
Relay = 357
Remain calm = 358
Remote = 359
Repeat = 360
Report = 361
Reporting = 362
Reset = 363
Restored = 364
Return = 365
Right = 366
Roof = 367
Room = 368
Running = 369

S

Safe = 370
Save = 371
Screen = 372
Second = 373
Secure = 374
Security = 375
Select = 376
Sensor = 377
Serial = 378
Service = 379
Set = 380
Setback = 381
Set point = 382
Setting = 383
Shed = 384
Shipping = 385
Shock = 386
Shop = 387
Shorted = 388
Shunted = 389
Side = 390

Word or Phrase

Silence = 391
Siren = 392
Sliding = 393
Smoke = 394
Someone = 395
South = 396
Spare = 397
Speaker = 398
Sprinkler = 399
Stairs = 400
Stairway = 401
Star = 402
Start = 403
Status = 404
Stay = 405
Stock = 406
Stop = 407
Storage = 408
Storm = 409
Studio = 410
Study = 411
Sump = 412
Sun = 413
Switch = 414
System = 415

T

Tamper = 416
Tank = 417
Task = 418
Telephone = 419
Television = 420
Temperature = 421
Test = 422
Thank you = 423
That = 424
The = 425
Theater = 426
Thermostat = 427
Third = 428
Time = 429
Toggle = 430
Top = 431
Transformer = 432
Transmitter = 433
Trespassing = 434
Trouble = 435
Turn = 436
Twice = 437
Type = 438

U

Under = 439
Unit = 440
Unlocked = 441
Unoccupied = 442
Up = 443
User = 444
Utility = 445

V

Vacation = 446
Valve = 447
Video = 448
Violated = 449
Visitor = 450

Word or Phrase

W

Wake up = 451
Walk = 452
Wall = 453
Warehouse = 454
Warning = 455
Water = 456
Way = 457
Welcome = 458
West = 459
What = 460
When = 461
Where = 462
Will = 463
Window = 464
Windows = 465
With = 466
Work = 467

Y

Yard = 468
Year = 469
You = 470

Z

Zone = 471
Zones = 472

Items below are special words and phrases which may be used to resolve unusual situation. For example: Custom 1 thru 10 are 6 second locations that you may custom record. The items shown in [ ] can be used to speak (say) the time, or condition based on the system or zone status.

'Custom1' = 1
'Custom2' = 2
'Custom3' = 3
'Custom4' = 4
'Custom5' = 5
'Custom6' = 6
'Custom7' = 7
'Custom8' = 8
'Custom9' = 9
'Custom10' = 10

[Insert Condition] = 2
[Insert Time] = 3
[Intruder Message] = 473
[Inverted Condition] = 4
[Say Closed/Open] = 509
[Say Down/Up] = 507
[Say Locked/Unlocked] = 496
[Say Not Secure/Secure] = 505
[Say Number]
[Say Off/On] = 511
[Say On/Off] = 512
[Say Open/Closed] = 510
[Say Secure/Not Secure] = 506
[Say Unlocked/Locked] = 495
[Say Up/Down] = 508

Appendix D - Two Way “Listen-in/Talk” Interface †

Using a Two Way Interface board (ELK-M1TWI), the control can accommodate up to 3 zones of listen-in. Each zone can have up to 4 microphones for a total of 12 listen-in points. Talk back is delivered through the speakers connected to Output 1. A two way session can be triggered by any number of zones when an alarm occurs. Two way can also be triggered during a Telephone Remote Control session. Instructions for the ELK-M1TWI are included with the interface.

OPERATION

1. Two way Listen-in must first be enabled from Menu 07-Global System Options. There are two required options. Option 31, “2Way Listen-in Enable” (No or Yes) and Option 32, “2Way Callback Time” (000 to 255 seconds). These options are defaulted to No and 000. In addition, you must also decide which zone(s) need to activate listen-in and set their “Enable Listen-in” programming option. Whenever a Central Station alarm message is transmitted for one of these zones, the dialer provides two methods for initiating a listen-in session.

1a. Hold the Line - After alarm kissoff the dialer will hold the phone line open for the amount of time programmed in Option 32, “2Way Callback Time”. This can be from 001 to 255 seconds. During this time the Operator may pick up the line and press * 55 * to initiate an immediate two way session. If the control does not receive * 55 * during the time period it will hang up and release the phone line.

1b. Callback - Upon hangup the control uses the same time value (Option 32, “2Way Callback Time”) to begin a callback time window. During this time window the control will answer any incoming call on the 1st ring, and allow the Operator to press * 55 * to initiate a two way session.

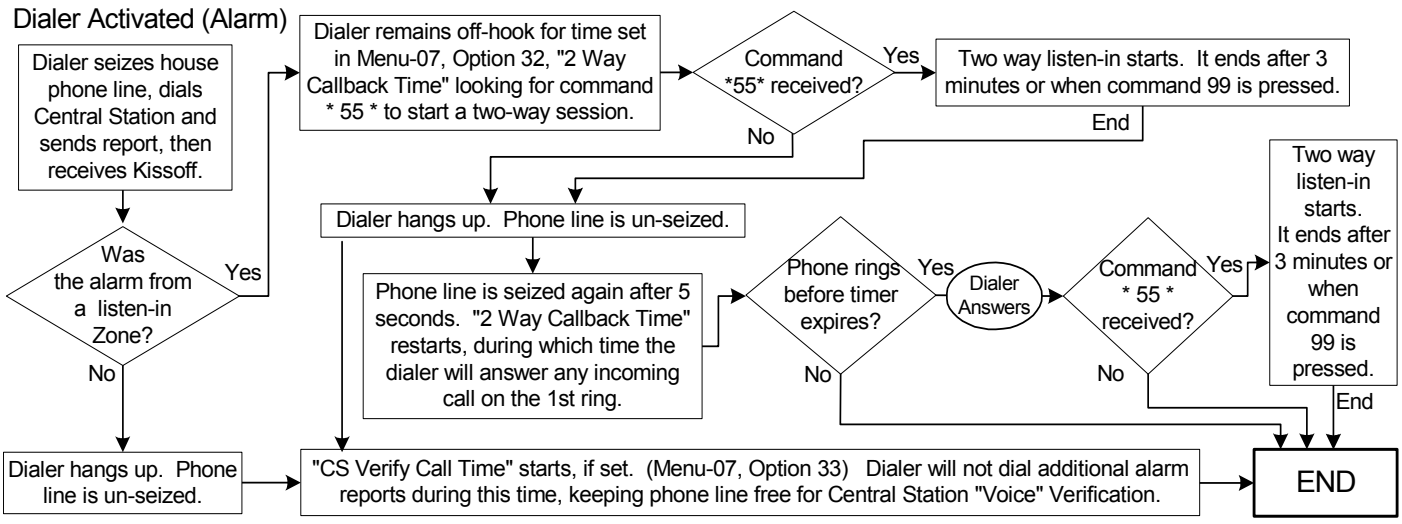
2. Two way may also be initiated by calling in using the Telephone Remote Control, and pressing 7 - “Audio Monitor”.

3. Once a two way session has begun, it will continue for 3 minutes before automatically disconnecting. To extend the two way session for 3 additional minutes you must press command 7.

TONE COMMANDS

* 55 * BEGIN LISTEN-IN Used by Operator to begin a listen-in session.
- 1 TALK Talk through all speakers connected to Output 1.
- 2 LISTEN All 3 microphone zones are enabled initially. Use key 4 to change mics.
- 3 SENSITIVITY INCREASE Raise the microphone gain.
- 4 MICROPHONE SELECT 4+0 Selects ALL microphones, 4+1 Mic1 zone, 4+2 Mic2 zone, 4+3 Mic3 zone
- 5 [future use]
- 6 SENSITIVITY DECREASE Lowers the microphone gain.
- 7 EXTEND TIME for 3 minutes
- 8 - 8 TERMINATE SESSION and enable 1 ring callback answer for selected time.
- 9 - 9 TERMINATE SESSION without enabling callback answer mode.
- 0 [future use]
- * CANCEL last key-press (undo)
- # [future use]

The Two-Way talk-back volume from Output 1 can be adjusted from level of 0 - 7 using ONLY the ElkRP Remote Programming Software; (Globals G29-G42 Special Tab).


Dialer Activated (Alarm)
Dialer seizes house phone line, dials Central Station and sends report, then receives Kissoff.
Was the alarm from a listen-in Zone?
Yes
No
Dialer remains off-hook for time set in Menu-07, Option 32, "2 Way Callback Time" looking for command * 55 * to start a two-way session.
Command *55* received?
Yes
No
Two way listen-in starts. It ends after 3 minutes or when command 99 is pressed.
End
Dialer hangs up. Phone line is un-seized.
Phone line is seized again after 5 seconds. "2 Way Callback Time" restarts, during which time the dialer will answer any incoming call on the 1st ring.
Phone rings before timer expires?
Yes
No
Dialer Answers
Command * 55 * received?
Yes
No
Two way listen-in starts. It ends after 3 minutes or when command 99 is pressed.
End
Dialer hangs up. Phone line is un-seized.
"CS Verify Call Time" starts, if set. (Menu-07, Option 33) Dialer will not dial additional alarm reports during this time, keeping phone line free for Central Station "Voice" Verification.
END

† Not evaluated by UL

Appendix E - SIA CP-01 Compliance †

This control has been self-verified to be compliant with the SIA CP-01 Control Panel Standard - Features for False Alarm Reduction PROGRAMMABLE FEATURES, SHIPPING DEFAULTS, AND RECOMMENDED PROGRAMMING					
FEATURE	**CP-01 Std. Par. #**	**REQUIREMENT**	**ALLOWABLE RANGE / PURPOSE**	**RECOMMENDED PROGRAMMING ***	**SHIPPING DEFAULT**
Exit Delay Time 1 & Exit Delay Time 2	4.2.2.1	Required (programmable)	45 - 120 sec. (2 minutes) for full or auto arming Shall not exceed 255 seconds	60 Seconds	60 Seconds
Silent on Exit (Disable Exit Progress Annunication - ie: Silent Exit)	4.2.2.2	Allowed	Individual keypads may be disabled	All Audible Annunciators	All Audible Annunciators
Exit Time Restart	4.2.2.3	Required Option	Only one restart during arming.	Enabled	Enabled
Auto Interior Off (Auto "Stay" Arm on Unvacated Premises)	4.2.2.5	Required Option (except for remote arm)	Away arm changes to Stay Arm if there is no exit detected.	Enabled	Enabled
Entry Delay Time 1 & Entry Delay Time 2	4.2.3.1	Required (programmable)	30 sec. to at least 240 sec. (4 minutes) minimum **	At least 30 Seconds **	30 Seconds
Comm Abort Time (Abort Window) for Non-Fire Zones. 000 time = Disabled	4.2.5.1	Required Option	May be disabled - by zone or zone type	Enabled (all zones)	Enabled
Comm Abort Window Time - for Non-Fire Zones	4.2.5.1	Required (programmable)	15 sec. - 45 sec. **	At least 15 seconds	30 Seconds
Abort Annunciation ***	4.2.5.1.2	Required	Annunciate that no alarm was transmitted	Enabled	Enabled - No disable option
Cancel Annunciation ***	4.2.5.4.1	Required	Annunciate that a Cancel was transmitted	Enabled	Enabled - No disable option
Duress (Individual User Code Option)	4.2.6.1 & 4.2.6.2	Allowed Option	Cannot be a 1+ or derivative of another user. No duplicates with other user codes	Disabled	Disabled
Cross Zoned (Zone Option)	4.3.1	Required Option	Violation of a zone defined as Cross zone requires verification by another zone	Enabled and two (or more) zones programmed	Disabled
Cross Zone Verify Time	4.3.1	Allowed	Programmable from 1 to 255 seconds.	Time based on walk path in protected premises	30 Seconds
Single Alarm Lockout (Swinger Shutdown)	4.3.2	Required (programmable)	For all non-fire zones, shut down at 1 trip.	Enabled	Enabled
Fire Verified Zone Definitions (Fire Alarm Verificatoin)	4.3.3	Required Option	Depends on Panel and Sensors	Enabled unless sensors can self-verify	Disabled
Call Waiting Cancel ***	4.5	Required	Call waiting cancel prefix code may be dialed on initial attempt ONLY.	Depends on User Phone Line	Blank - Not Programmed

* Programming at installation may be subordinate to other UL requirements for the intended application.
** Combined Entry Delay and Abort Window should not exceed 1 minute.
*** Feature is pre-defined in the panel software and may not be altered.

† Not evaluated by UL

Appendix F - Regulatory Agency Statements

FCC: This control complies with Part 68 of the FCC rules. On the front nameplate of the main control board is a label that contains, among other information, the FCC certification number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company. This equipment uses an RJ31X jack to connect to the telephone network. The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive REN's on the telephone line may result in the devices not ringing in response to an incoming call. Typically, the sum of REN's should not exceed five (5.0). To be certain of the number of devices that may be connected to a line (as determined by the total RENs) contact the local telephone company.

If this equipment should happen to cause harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary. The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service. If trouble is experienced with this equipment, please contact the manufacturer for repair and warranty information. Elk Products, Inc. 3266 Hwy 70 W. Hildebran, NC 28637 828-397-4200 If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

There are no user serviceable components in this product. All necessary repairs must be made by the manufacturer. Other repair methods may invalidate the FCC registration on this product. This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs. This equipment is hearing-aid compatible.

This control complies with Part 15 of FCC Rules which are designed to provide reasonable protection against such interference in a residential installation. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause Interference to radio and television reception. It has been type tested. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

* If using an indoor antenna, have a quality outdoor antenna installed.
* Move the receiver away from the security control.
* Have the security control plugged into a different outlet so that it and the receiver are on different branch circuits.
* Reorient the receiving antenna until interference is induced or eliminated.
* Move the antenna leads away from any wire runs to the security control

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user or installer may find a booklet titled "Interference Handbook" prepared by the Federal Communications Commission helpful: This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or Users Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

Canada IC: [4353A-M1GCB REN 0.3B] This product meets the applicable Industry Canada technical specifications. The REN "Ringer Equivalence Number" is an indication of the maximum number of devices allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices does not exceed five.

UNDERWRITERS LABORATORIES (UL) INFORMATION / REQUIREMENTS

The M1 has been evaluated to the following Standards:
UL Standard 985, Household Fire Warning System Units
UL Standard 1023, Household Burglar-Alarm System Units
UL Standard 1635, Digital Alarm Communicator System Units,
UL Standard 1637, Home Health Care Signaling Equipment
ULC/ORD C1023-74, Canadian Standard for Household Burglar Alarm System Units,
ULC S545-02, Canadian Standard for Residential Fire Warning System Control Units.
UL Standard 1610, Central-Station Burglar-Alarm Units
UL Standard 365, Police Station Connected Burglar Alarm Units and Systems
UL Standard 609, Local Burglar Alarm Units and Systems
ULC S303, Canadian Standard for Local Burglar Alarm Units and Systems
CAN/ULC-S304-06, Canadian Standard for Signal Receiving Centre and Premise Burglar Alarm Control Units.
CSA C22.2 No. 205-M1983 – Canadian Standard for Signal Equipment

MINIMUM SYSTEM CONFIGURATIONS FOR UL INSTALLATIONS

Household Burglary (UL 1023), Household Fire (UL 985), Digital Alarm Communicator (UL 1635) Listed Installations

* At least one compatible keypad is needed for all applications.
* At least one bell fixture is required for all applications.
* Household Burg requires 4 hours of standby power. Limit combined continuous current draw from terminals +SAUX, +VAUX, +VKP, and connector J16 to 1 Amp max. and use one (1) 8 Ah battery. A supplementary UL Listed, Battery Backed-up, Supervised Power Supply must be connected to power additional Keypads and Expanders if the combined continuous current draw from terminals +SAUX, +VAUX, +VKP, and connector J16 exceeds 1 Amp.
* Household Fire/Home Health Care requires 24 hours of standby power. Limit combined continuous current draw from terminals +SAUX, +VAUX, +VKP, and connector J16 to 500 mA and use two (2) 8 Ah batteries in parallel.
* Force Arming and Auto Arming shall not be enabled
* For Household Fire Listed Installations the indicating devices shall be a Wheelock 34T-12 or equivalent.
* Initiating and indicating devices must be rated at 11.5 to 12.4 VDC.
* For Household applications the minimum alarm cutoff time for the audible devices shall be 5 minutes.
* Zone Swinger Shutdown shall not be enabled.
* Remote Downloading shall not be used on UL Listed systems.
* Communicator Dial Delay time shall be set to "0".
* For Household Burg Listed Installations the maximum entry delay time shall be 45 seconds and the max. exit delay time shall be 120 seconds.
* 24-hour communicator test transmission is required.
* The silent keypad option shall not be enabled.
* The number of dial attempts must be set from 5 - 10.
* Fail to communicate report code must be enabled.

Appendix F - Regulatory Agency Statements (cont)

Home Health Care (UL 1637) Listed Installations

Requirements described under UL985 plus:

* A minimum of two (2) keypads are required with one keypad powered from "+VKP" and one keypad powered from "+VAUX".

Commercial - Central Station (UL 1610), Police Station Connected (UL 365), Local Burglar Alarm (UL 609) Listed Installations

Requirements described under UL1023 plus:

* The Alarm Cutoff timer must be set to 00900 sec. (15 min.) or greater.
* UL Commercial Burg requires 4 hours of standby power. Limit combined continuous current draw from terminals +SAUX, +VAUX, +VKP, and connector J16 to 450 mA max. and use one (1) 8 Ah battery. A supplementary UL Listed, Battery Backed-up Power Supply must be connected to power additional Keypads and Expanders if the combined continuous current draw from terminals +SAUX, +VAUX, +VKP, and connector J16 exceeds 450 mA.
* An acceptable Commercial enclosure must be used (see Listed Enclosures below)
* A UL LIsted Tamper Switch(s) must be installed on the enclosure and connected to a 24 hour Burg Tamper defined Zone.
* All Keypads need to be installed within the protected area (they have no tamper)
* DO NOT USE an A B Attack Cabinet for the external sounder
* A Whenever/And/Then rule should be written (using ElkRP software) to enable the Output 2 Siren to 'chirp' upon closing ringback.

UL Canada Listed Installations (ULC S304 and ULC S303)

Requirements described under UL1023, 1610 plus:

* The Alarm Cutoff timer must be set to 00900 sec. (15 min.) or greater.
* UL Canada Commercial Burg requires 24 hours of standby power. Limit combined continuous current draw from terminals +SAUX, +VAUX, +VKP, and connector J16 is 450 mA max. and use two (2) 8 Ah batteries in parallel.
* Zone Expanders must be in an acceptable Commercial enclosure (see Listed Enclosures below)
* **Communications Channel Security Applications: Low Risk, Passive Level 1 (P1), Extent 1 (CAN/ULC-S302)**
* For Phone Line Fault, the delay time setting must be for Max. 3 minutes.
* For System Report Codes and Options, the setting must be for Max. 90 seconds for reportiing changes in the status of the control unit, including alarm, trouble, open and close signals.

LISTED ENCLOSURES:

For Household Burglar or Household Fire Listed Installations one of the following enclosures must be used:

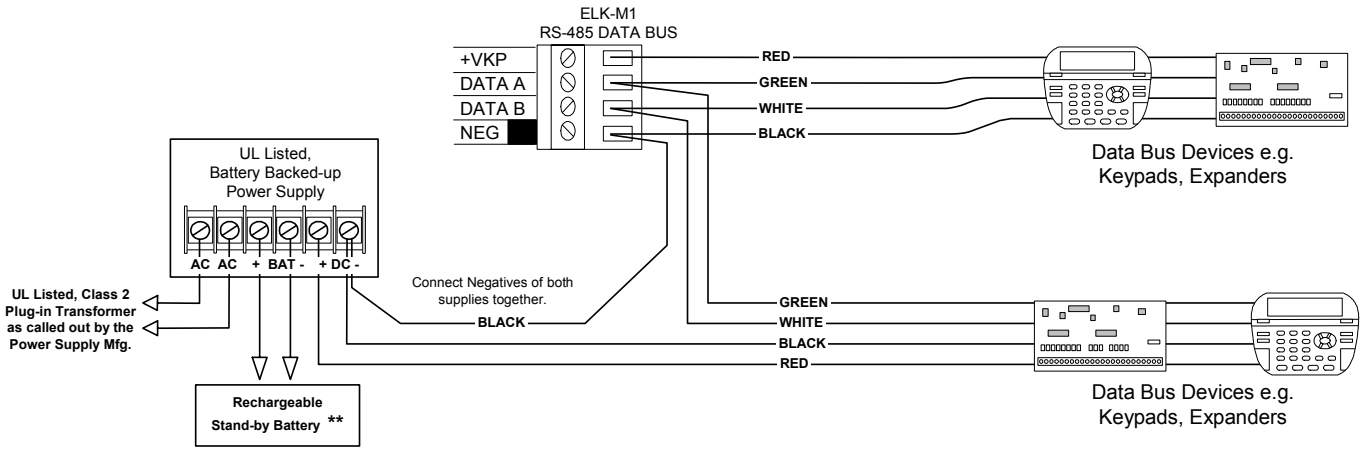
* ELK 14" Enclosure model ELK-SWB14 or ELK-UB14
* ELK 28" Enclosure model ELK-SWB28
* OnQ Legrand 14" Enclosure models 363474-01or 363474-11 utilizing the Universal Mounting plate part no. 364453. Not LISTED FOR CANADA
* OnQ Legrand 28" Enclosure models 363475-01, 363475-11, 364591-01, 364591-02 or364591-11 utilizing the Universal Mounting plate part no. 364453. Not LISTED FOR CANADA
* OnQ Legrand 42" Enclosure models 363476-01,363476-11,364592-01, 364592-02, or 364592-11 utilizing the Universal Mounting plate part no. 364453. Not LISTED FOR CANADA

For Commercial Listed Installations *the following enclosure must be used:*

* ELK-TB14 Tamper Resistant Enclosure

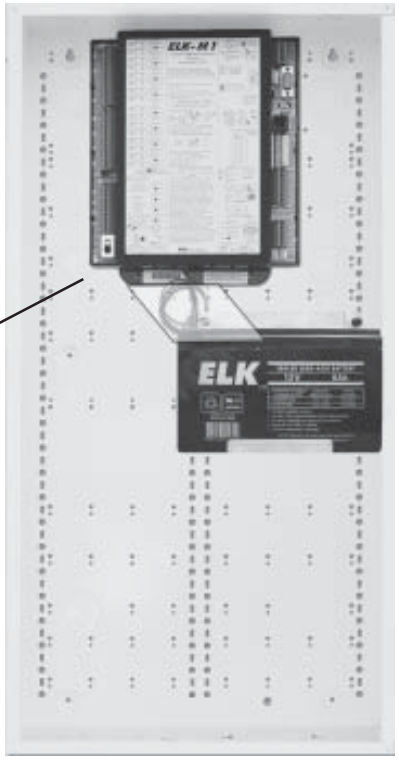
SUPPLEMENTARY POWER SUPPLY:

This diagram shows how to properly connect a Supplementary UL Listed, Battery Backed-up Power Supply when the combined total current draw from the control is more than the allowable current as per the UL requirements.



** The battery on the supplementary power supply will be supplying power during a power outage to the Data Bus Devices connected to it. The Power Supply and backup Battery should be sized to supply the UL required minimum standby time according to the Data Bus Devices e.g. Keypads, Expanders connected.

Appendix F - Regulatory Agency Statements (cont)



NOTE: A recent revision to UL985 requires that a minimum 1/4" separation be provided and maintained between power-limited conductors and non-power-limited conductors. Because the Battery conductor leads are non-power-limited, we recommend they be routed in the shortest and most direct path from the Control to the Battery itself, regardless of the enclosure type of brand. For 28" or larger enclosures, a battery shelf (e.g. ELK-SWS) may be necessary. Under no circumstances should any "power-limited" conductors be routed within 1/4" of the non-power-limited battery leads. The best procedure is to avoid the shaded "KEEP OUT" area entirely, as depicted in these diagrams.

† Not evaluated by UL

Appendix G - Additional ELK-M1KP Keypad Information

OPTIONAL PROX CARD READER †

Prox cards/fobs are enrolled into a User Code location using the same procedures used to add/change User Code PINs.

1. Press the ELK key, then press the 6 key (or scroll up) to display 6 - Change User Codes. Press the RIGHT arrow key to select this menu. A Master user code (PIN) must be entered to gain access to this menu.
2. Enter the three digit number of the desired User Code location (001 to 099) or use the UP or DOWN arrow keys to scroll through the codes. Then select CHG by pressing the RIGHT arrow key.
3. The keypad will display any existing 4 or 6 digit code that is programmed for this user along with any programmed name.
4. Place a new (not previously enrolled) prox card/fob near the Keypad's right speaker grill below the Stay key. The read range is approximately 1/8" to 3/8". The Keypad should beep 3 times and display the card/fob 12 digit ID.
5. If the card/fob is rejected, a low error tone and Code Not Authorized, Redo will display. Causes for reject include: A. The card/fob has already been enrolled (duplicate codes are not allowed) OR B. The facility code in the card/fob does not match the reader facility code. A prox reader can only read cards/fobs with a matching facility code.
6. Once a prox card/fob is enrolled in a user code location, its capabilities are set by the User Code Options found in Installer Menu 02. The commonly used options are: Arm the Control, Disarm the Control, or Access event.

A keypad access event occurs when a valid prox card/fob is read at a keypad. Nothing will happen until this event is utilized in a Whenever/And/Then Rule from the Elk-RP software. An Access event can be used to create virtually any desired reaction. i.e., turn on an output, a light, close/open a relay, etc. The following rule example turns on Output 003 for 10 seconds when a valid prox card/fob (with Access Option enabled) is read at Keypad 01. This could be used to break power to a door strike.

WHENEVER Keypad 01 Access is Activated
THEN Turn On Output 003 for 10 seconds.

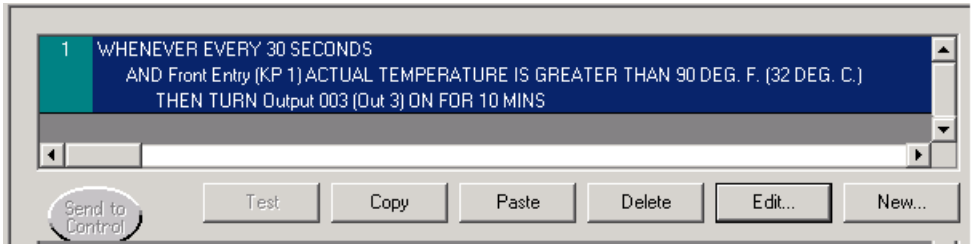
M1KP KEYPAD ON-BOARD TEMPERATURE SENSOR †

The ELK-M1KP Keypad has an on-board temperature sensor. (NOTE: The ELK-M1KP2 & M1KPAS devices DO NOT HAVE an on-board temp sensor.) The temperature may be displayed and/or used with the Elk-RP Whenever/And/Then Rules to cause an action or control something. i.e., a fan, pump, light, etc.

Using a Keypad temperature reading in an ELK-RP Whenever/And/Then Rule to create an action or output

The following rule example will turn on Output 3 for 10 minutes when the Keypad temperature reading exceeds 90 degrees.

1. Start RP and open an account. Click the Automation tab and the Rules tab followed by New.
2. Click Trigger, then point to Time Occurrence, then Every X Seconds, and then click to select. **
3. In the block beside the words Fixed Value, type in 30 and click OK.
4. Click And, follwed by Temperature which is located near the bottom of the drop down list.
5. Highlight the Keypad temperature sensor (by name), click the Greater than button, and change the temperature selection number to 90. Make sure the button beside F is selected, and click OK.
6. Click Then, followed by Turn Output On/Off. Highlight Output 3 (use the scroll down arrow), make sure the button beside Turn on is selected, then select the box labeled For. Highlight the hrs:mins:secs window and enter 00:10:00 (10 minutes). Click OK. Double check everything and click Done.


1 WHENEVER EVERY 30 SECONDS
AND Front Entry (KP 1) ACTUAL TEMPERATURE IS GREATER THAN 90 DEG. F. (32 DEG. C.)
THEN TURN Output 003 (Out 3) ON FOR 10 MINS
Send to Control
Test
Copy
Paste
Delete
Edit...
New...

** Numerous WHENEVERS may be used for a temperature rule, i.e., time occurence, arming of the system, etc. but NOT a direct temperature change or reading. However, you can use a AND command to compare or "test" a temperature reading against a target value each time the trigger occurs. The target compare options are "Equal to, Not equal to, Less than, and Greater than". The "Equal to" is not recommended as a compare opton because it may be impossible for a temperature reading to be exactly at the target value when the trigger occurs.

M1KP Temp Sensor Calibration - It may be necessary to re-calibrate the temp sensor for certain locations.

1. Press and hold the " * " key, followed by the F5 key ** . HOLD BOTH keys pressed for 5-10 secs or until the LCD displays **Exit when done. F1 Set Addr.** (This is Keypad setup mode)
   ** Alternate Method: Hold any key pressed while applying power to the keypad.
2. Press the F2 key and the LCD will display: **Temperature Degrees F = XX.X** (This is the current temperature)
3. Use the UP or DOWN arrow keys to adjust the temp display until it approximates the desired setting. Each press changes the setting by approximately 3 tenths of a degree (00.3)
4. Press the Exit key twice do return back to the regular operation mode.

† Not evaluated by UL

M1 LIMITED WARRANTY

The ELK-M1 and its associated component products are warranted by Elk Products, Inc. (“Manufacturer”) against defects in material and workmanship for a period of two (2) years from the date of manufacture. If product is found to be defective during the first 180 days, manufacturer may allow an over the counter exchange, subject to inspection and approval by one of it’s representatives. Manufacturer’s obligations under this Limited Warranty shall be limited to repairing or replacing, at its option, free of charge, during this warranty period, any product returned to Manufacturer freight prepaid. After the expiration of the warranty period, product will be repaired based on a fixed charge per device.

Manufacturer shall have no obligation under this Limited Warranty or otherwise if (1) the Product has been damaged by negligence, accident, mishandling, lightning or flood, or other Acts of God, (2) the Product has not been operated in accordance with its operating instructions, (3) the Product has been altered or repaired by anyone outside Manufacturer’s authorized facilities (4) adaptations or accessories have been made or attached to the Product which, in Manufacturer’s sole determination, have adversely affected its performance, safety or reliability.

If a Product should malfunction or fail during it’s warranty period, contact ELK or one of its authorized distributors for a Return Authorization (RMA) number. Returned Products must include a complete description of the problem, along with the RA number clearly marked on outside of the package. Manufacturer will not be responsible for any unnecessary items included with any returned Product.

THIS WARRANTY IS THE EXCLUSIVE WARRANTY FOR ANY PRODUCT. MANUFACTURER SPECIFICALLY DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR OF MERCHANTABILITY. MANUFACTURER SHALL NOT BE LIABLE IN TORT, INCLUDING NEGLIGENCE OR STRICT LIABILITY, AND SHALL HAVE NO LIABILITY AT ALL FOR INJURY TO PERSONS OR PROPERTY. MANUFACTURER’S LIABILITY FOR FAILURE TO FULFILL ITS OBLIGATION UNDER THIS LIMITED WARRANTY OR ANY OTHER LIABILITY IN CONNECTION WITH A PRODUCT SHALL BE LIMITED TO THE AMOUNT OF THE PURCHASE PRICE RECEIVED BY MANUFACTURER FOR THE PRODUCT. THE REMEDIES STATED IN THIS LIMITED WARRANTY ARE THE CUSTOMER’S EXCLUSIVE REMEDIES AGAINST MANUFACTURER REGARDING ANY PRODUCT. UNDER NO CIRCUMSTANCES SHALL MANUFACTURER BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS AND REVENUES, INCONVENIENCE OR INTERRUPTIONS IN OPERATIONS, OR ANY OTHER COMMERCIAL OR ECONOMIC LOSSES OF ANY KIND. THESE LIMITATIONS AND DISCLAIMERS ARE NOT MADE BY MANUFACTURER WHERE PROHIBITED BY LAW. SOME STATES PROHIBIT LIMITATIONS OF WARRANTIES AND THE CUSTOMER MAY HAVE ADDITIONAL RIGHTS IN THOSE STATES.

Index

A

Alarm Abort 40
Alarm Cutoff Timers 33
Anti-Takeover 21
Area Partitioning 21
Area Reporting Codes 40, 41
Auto Stay Option 27
Automation control function 16
Automation Tasks 51
Auxiliary Power Connections 10

B

Battery Connection 10
Bus Module Enrollment 25

C

Canada IC 66
Central Station alarm verification 36
Clock, Setting System Time 16
Communicator Setup Checklist 22
Comparisons of M1 and M1G (Gold) 5
Counters 53
CrossZonePool 33
CrossZoneVerTime 35
Custom Settings 53
Custom voice messages
Voice message recording 19

D

Data Bus Device Types/Addresses 24
Daylight Savings Time 35
Defaulting the Control 36
Dialer Delay 33
Dialer Delay Time 41
Duress 24

E

Entering Installer Level Programming 22
Entry delay time 26
Event Codes - Appendix A 58
Exit delay time 26
Exit Error 26
Exit TimeRestart 27
Exit1TimeRestart 27

F

FCC Information 66
Force Arm 32
Four (4) State Zone Wiring 9

G

Global Sys Definitions 34, 35, 36, 37

I

Input/Output Expander Addresses 24
Installation and Wiring 8
Installer Program Code
14, 16, 21, 22, 25

K

Keypad Addresses 24
Keypad Definitions 29
Keypad Menus 16

L

Lighting 52
Listen-In 33

M

Menu 01 - Bus ModuleEnrollment 25
Menu 02 - User Code Authorities 25
Menu 03 - Area Definitions 27
Menu 04 - Keypad Definitions 28
Menu 05 - Zone Definitions 30
Menu 06 - Alarm Cutoff Timers 33
Menu 07 - Global System Definitions 34
Menu 08 - Telephone Account Setup 38
Menu 09 - Area Reporting Codes 40
Menu 10 - Zone Reporting Codes 42
Menu 11 - Sys Report Code Options &
Codes 43, 44
Menu 12 - User Report Codes 47
Multi-area (Partition) Operation 20

O

Operating The System 14
Output 1 Delay Turn-On 36
Outputs 11, 52

P

PeriodicTrip 33

Q

Quick Reference Programming Guide 23
Quickarm 26

R

Regulatory Agency Statements -
Appendix F 66, 67, 68
Ring/Hang/Answer option 36
Rings Until Auto Answer 37
RP Software 49
Rules 55

S

Serial Port Baud Rate 37
SIA CP-01 Compliance - Appendix E 65
Silent Alarm 31
SingleAlmLockout 37
Specifications, Features, and Benefits 5
Sunrise/Sunset 52
SwingerShutdown 33
Sys Rpt Code Options 44, 45

T

Tasks 51
Telephone Account Setup 38, 39
Telephone Line Connection 11
Telephone Remote Control 34, 60
Temporary Code 24
Texts 54
Thermostats 54
Transformer Power Input (AC) 10
Two Way Listen-in 36

U

Update/Verify Firmware 50, 51
User Code 14, 16
User Code Options 24

V

Verify Call Time 37
Voice messages - Recording Custom 19
Volume level adjustment 35

W

Whenever/And/Then 55
WirelessDefinitions 47
Wiring & Hookup Diagram 6
WrongCodeLockout 35

Z

Zone Definitions 31, 32
Zone Reporting Codes 42, 43
Zone Wiring Types 31

ELK
PRODUCTS, INC.
www.elkproducts.com
Printed in USA